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INVESTIGATION OF AIRCRAFT COMBUSTOR NOISE

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General Motors Corporation

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EUSTIS DIRECTORATE POSITION STATEMENT

This report describes the results of an investigation to determine the feasibility of correlating combustor noise emission levels and combustor efficiency. Although an adequate correlation and combustor noise prediction model was not developed, the effort helped to increase the level of understanding of the mechanics of combustor noise production.

The work was performed under the technical management of Mr. Robert G. Dodd and Captain Timothy D. Balliett, Technology Applications Division.

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Current combustor design technology depends primarily upon empirical correlation and past experimental experience of the designers. There is a continuing need for knowledge of the combustion process and how the different design and performance parameters are related. The objective of this program was to investigate the feasibility of measuring combustor noise and then relating the noise levels by correlation curves to other pertinent

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performance parameters, such as combustor efficiency, and mass emissions.

The investigation consisted of the reduction and analysis of previously recorded noise data from a large number of combustor rig tests of T63 sized can combustors which were tested under a U.S. Army-sponsored low-emission combustor program. Under this program additional tests were conducted with a fixed burner geometry, varying the method of fuel injection so as to provide a large change in mass emissions, and to determine the effects on noise. An engine test of a T63-type low-emission combustor was also conducted to determine combustor noise and emissions performance in an engine environment. Combustor design and performance parameters and noise levels were analyzed to determine their interrelation. Combustor design and performance parameters considered included combustor volume, burner and flame geometry, combustor efficiency, method of fuel injection, cooling scheme, fuel-air ratio, burner inlet conditions, flow split (including variable geometry effects), dilution air entry schemes, swirl. pressure loss, heat release rate, recirculation, and mass emissions (i.e., carbon monoxide, unburned hydrocarbons, oxides of nitrogen and particulates). Using a computer program, a regression analysis was performed on this data to develop a noise-trend model relating the combustor design and performance parameters with combustor noise levels.

No relationship between noise and emissions was established. However, the engine tests of the low-emission premix/swirl burner showed 3 dB combustion noise reduction over a portion of the engine noise spectrum. A turbine noise reduction of 5 dB was also obtained by use of this burner.

PREFACE

This program was conducted for the U.S. Army Air Mobility Research and Development Laboratory, Eustis Directorate, under Contract DAAJ02-73-C-0088, DA Task 1G162207AA110. The contract was carried out under the technical cognizance of Capt. T. D. Balliett and Mr. R. G. Dodd, USAAMRDL, Fort Eustis, whose guidance and suggestions are gratefully acknowledged.

The contributions made by other Detroit Diesel Allison personnel were of great assistance to the authors. Mr. D. L. Troth provided assistance in the area of combustor design, performance, and emissions, and Mr. C. L. Walker provided guidance and suggestions in the initiation as well as execution of this program.

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INTRODUCTION

Gas turbine engine noise at high jet exhaust velocities is composed primarily of jet mixing noise, which is proportional to the eighth power of jet velocity. At reduced jet velocities, it has been generally observed that the apparent jet noise no longer decreases as rapidly as the eighth power of jet velocity. While the true jet noise decreases, internal noise sources emerge into prominence and dominate the overall noise. The noise from turboshaft engines is in the low jet velocity regime, since engine output is shaft work rather than jet velocity. Also, for the new-generation high-bypass turbofan engines, core engine sources, heretofore insignificant in terms of the total problem, are emerging into prominence as fan noise is brought under control. Presently, little is known about core engine noise sources such as turbine, combustor, and obstructions in the engine flowpath. Generation and suppression mechanisms are not well understood, and reliable prediction technology is yet to be developed. Currently, research efforts are under way to fill this void. Supplementing other studies of core engine noise, this research addresses the problem of combustion noise, one of the several core engine sources. Combustion noise may be closely related to other core sources. Turbulence from the combustor may contribute to turbine noise generation, and combustion noise itself may be amplified as it propagates through the exhaust duct. Thus, combustion noise reduction may be the key to significant reduction in core engine noise. It is generally agreed that combustion noise generation is the result of unsteady burning. Nonuniformities in the burning process produce nonuniform density changes which act as local monopole sources. This unsteady burning which is the source of

combustion noise is also undesirable from a mass emission standpoint. Or, conversely, the design characteristics which contribute to pollution abatement may contribute to noise abatement as well.

The objective of this research was to determine the feasibility of measuring combustor noise and then relating the noise levels by correlation curves to other pertinent performance parameters. An experimental program was carried out based primarily upon the T63 can combustor, including the following:

1. Combustor Geometric Variations -

   Combustor noise, design, and performance parameters were analyzed for 59 burner configurations to define the interrelationships between noise and design, and noise and performance (including mass emissions). The noise data were obtained for a variety of burner geometries of the T63 type during the performance of a combustion emissions research program (U.S. Army AMRDL Contract DAAJ02-72-C-0005, "Investigation of Aircraft Gas Turbine Combustor Having Low Mass Emissions").

2. Fuel Injection Mode Variation -

   The combustion in the burner primary zone would be expected to have a major effect on noise. With a fixed burner geometry, noise measurements were made for two different fuel injection modes (pressure atomized and wall film) in order to alter the primary zone combustion process and provide a wide range of mass emissions.

3. Engine Test of Low Emission Burner -

T63 engine tests were conducted for a low-emission burner to determine combustor noise and emissions performance as compared to a standard combustor.

These three areas of investigation are discussed in the following sections of this report.

DISCUSSION

COMBUSTOR DESIGN, PERFORMANCE AND NOISE

During the experimental phase of a low-emissions aircraft combustor research program[1], noise data was acquired for a large number of T63 size burner designs operating over a range of heat release rates, with burner operating conditions as shown in Tables 1 and 2. The objectives of that program were to reduce total emissions of carbon monoxide, hydrocarbons, oxides of nitrogen, and particulates by a minimum of 50% from a baseline T63-A-5A combustor, while not increasing emissions of the individual pollutants in achieving the overall reduction. Data for 59 of the combustor configurations tested, together with detailed design and combustion performance information, formed the basis for this combustion noise research program.

Combustor Description

The combustors employed in this study were T63 size, can-type burners. The design and performance parameters considered are presented in Table 3.

The values of the design parameters for each of the 59 configurations are given in Table 4, and performance is listed in Table 5 (for each of the burner cycle points). It should be noted that not all combustor configurations were tested at all cycle points.

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(1) Troth, D. L., et.al., INVESTIGATION OF AIRCRAFT GAS TURBINE COMBUSTOR HAVING LOW MASS EMISSIONS, Detroit Diesel Allison Division of General Motors, USAAMRDL Technical Report 73-6, U.S. Army Air Mobility Research and Development Laboratory, Fort Eustis, Virginia, April 1973.

TABLE 1. T63-A-5A COMBUSTION SYSTEM OPERATING CONDITIONS FOR NONREGENERATIVE ENGINE

CYCLE POINT	POWER SHP	POWER %	TOT °R	W_a LB/SEC	W_f LB/HR	BIT °R	BIP PSIA	TIT °R	F/A
1.	33.5	10	1273	1.87	73.7	760	44.5	1502	.0109
2.	335	100	1840	3.22	229.5	984	92.3	2240	.0198
3.	251	75	1653	2.98	178.5	932	81.0	2018	.0166
4.	184	55	1526	2.75	143.5	890	71.5	1858	.0145
5.	134	40	1437	2.53	119.0	857	63.7	1749	.0131
6.	84	25	1360	2.20	96.0	813	54.8	1658	.0121

TABLE 2. T63-A-5A COMBUSTION SYSTEM OPERATING CONDITIONS FOR REGENERATIVE ENGINE

CYCLE POINT	POWER SHP	POWER %	TOT °R	W_a LB/SEC	W_f LB/HR	BIT R	BIP PSIA	TIT °R	F/A
1.	28	10	1250	1.76	51	1127	43.0	1677	.0080
2.	280	100	1755	3.04	154	1430	85.0	2352	.0141
3.	210	75	1600	2.81	122	1300	75.6	2090	.0121
4.	154	55	1490	2.62	101	1225	65.7	1940	.0107
5.	112	40	1415	2.46	83	1175	60.2	1815	.0094
6.	70	25	1340	2.21	69.4	1161	51.5	1746	.0087

TABLE 3. COMBUSTOR DESIGN AND PERFORMANCE PARAMETERS

Design:	Performance:
Length	Inlet Pressure
Primary Zone	Inlet Temperature
Intermediate Zone	Airflow
Dilution Zone	Overall Fuel-Air Ratio
Fuel Preparation	Combustion Efficiency
Flow Split	Pressure Drop
Primary Zone Equivalence Ratio	Temperature Profile
Fuel Injection Mode	Mass Emissions
Pressure Atomizer	CO
Air Blast	CH_x
Air Assist	NO_x
Wall Film	Smoke
Cooling Method	Noise
Film	
Convection	
Film and Convection	
Primary Zone Contour	
Conventional	
Prechamber	
Primary Zone Flow	
Axial	
Swirl	
Dilution Zone Geometry	
Fixed	
Variable	

TABLE 4. COMBUSTOR CONFIGURATIONS

NOMENCLATURE

Length:

Fuel Prep - Fuel Preparation Zone, inches

PZ - Primary Zone, inches

IZ - Intermediate Zone, inches

Total - Total Liner Length, inches

PZ Flow - Primary Zone Flow Split,(PZ Flow)/(Total Flow),%

Geometry - Dilution Zone Geometry, Fixed or Variable

% Open DZ- Dilution Zone Variable Geometry Setting, % of Fully Open

TABLE 4. (CONT.)

NO	COMBUSTOR	LENGTH: FUEL PREP	LENGTH: PZ	LENGTH: IZ	LENGTH: TOTAL	PZ FLOW	FUEL INJECTION	TYPE COOLING	FLOW	PZ CONTOUR	GEOMETRY
1	T63-A-5A BASELINE	0.0	2.70	1.50	9.56	38.10	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
2	DDA AIR BLAST	0.0	2.70	1.50	9.55	39.90	AIR BLAST	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
3	EXTENDED LENGTH	0.0	2.70	7.50	15.56	38.10	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
4	DDA AIR BLAST LESS 8% PRIMARY AIR	0.0	2.70	1.50	9.56	38.10	AIR BLAST	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
5	DDA AIR BLAST LESS 33% PRIMARY AIR	0.0	2.70	1.50	9.55	31.50	AIR BLAST	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
6	VAR GEOM CONST DIA SWIRL DOME % OPEN DZ = 33	4.00	6.25	0.0	14.35	50.00	PRESSURE ATOMIZED	CONVECTION & FILM	SWIRL	CONVENTIONAL	VARIABLE
7	VAR GEOM CONST DIA SWIRL DOME % OPEN DZ = 50	4.00	6.25	0.0	14.35	45.30	PRESSURE ATOMIZED	CONVECTION & FILM	SWIRL	CONVENTIONAL	VARIABLE
8	VAR GEOM CONST DIA SWIRL DOME % OPEN DZ = 67	4.00	6.25	0.0	14.35	41.40	PRESSURE ATOMIZED	CONVECTION & FILM	SWIRL	CONVENTIONAL	VARIABLE
9	VAR GEOM CONST DIA SWIRL DOME % OPEN DZ = 83	4.00	6.25	0.0	14.35	38.20	PRESSURE ATOMIZED	CONVECTION & FILM	SWIRL	CONVENTIONAL	VARIABLE
10	VAR GEOM CONST DIA SWIRL DOME % OPEN DZ = 100	4.00	6.25	0.0	14.35	35.30	PRESSURE ATOMIZED	CONVECTION & FILM	SWIRL	CONVENTIONAL	VARIABLE
11	VAR GEOM EXT LENGTH % OPEN DZ = 0	0.0	2.70	7.30	15.56	63.00	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	VARIABLE
12	VAR GEOM EXT LENGTH % OPEN DZ = 20	0.0	2.70	7.30	15.56	43.00	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	VARIABLE
13	VAR GEOM EXT LENGTH % OPEN DZ = 40	0.0	2.70	7.30	15.56	32.70	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	VARIABLE
14	VAR GEOM EXT LENGTH % OPEN DZ = 60	0.0	2.70	7.30	15.56	26.40	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	VARIABLE
15	VAR GEOM EXT LENGTH % OPEN DZ = 80	0.0	2.70	7.30	15.56	22.10	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	VARIABLE
16	VAR GEOM EXT LENGTH % OPEN DZ = 100	0.0	2.70	7.30	15.56	19.00	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	VARIABLE
17	VAR GEOM EXT LENGTH VG WELDED CLOSED DZ	0.0	2.70	7.30	15.56	63.00	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	VARIABLE
18	EARLY QUENCH	0.0	2.06	8.14	15.56	38.10	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
19	DELAYED DILUTION	0.0	2.70	4.76	9.56	38.10	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
20	DELAYED/ANNULAR DILUTION	0.0	2.70	4.76	9.56	36.70	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
21	EX-CELL-O AIR BLAST	0.0	2.70	1.50	9.56	40.10	AIR BLAST	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
22	EX CELL O AIR ASSIST 4.5 % ABOVE BIP	0.0	2.70	1.50	9.56	38.70	AIR ASSIST	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
23	EX CELL O AIR ASSIST 10 % ABOVE BIP	0.0	2.70	1.50	9.56	38.90	AIR ASSIST	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
24	EX CELL O AIR ASSIST 20 % ABOVE BIP	0.0	2.70	1.50	9.56	39.20	AIR ASSIST	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
25	VAR GEOM CONST DIA SWIRL DOME % OPEN DZ = 0	2.00	8.25	0.0	14.35	63.00	PRESSURE ATOMIZED	CONVECTION & FILM	SWIRL	CONVENTIONAL	VARIABLE
26	VAR GEOM CONST DIA SWIRL DOME % OPEN DZ = 10	2.00	8.25	0.0	14.35	58.40	PRESSURE ATOMIZED	CONVECTION & FILM	SWIRL	CONVENTIONAL	VARIABLE
27	VAR GEOM CONST DIA SWIRL DOME % OPEN DZ = 20	2.00	8.25	0.0	14.35	54.50	PRESSURE ATOMIZED	CONVECTION & FILM	SWIRL	CONVENTIONAL	VARIABLE
28	VAR GEOM CONST DIA SWIRL DOME % OPEN DZ = 40	2.00	8.25	0.0	14.35	49.00	PRESSURE ATOMIZED	CONVECTION & FILM	SWIRL	CONVENTIONAL	VARIABLE
29	VAR GEOM CONST DIA SWIRL DOME % OPEN DZ = 60	2.00	8.25	0.0	14.35	42.90	PRESSURE ATOMIZED	CONVECTION & FILM	SWIRL	CONVENTIONAL	VARIABLE
30	VAR GEOM CONST DIA SWIRL DOME % OPEN DZ = 90	2.00	8.25	0.0	14.35	38.70	PRESSURE ATOMIZED	CONVECTION & FILM	SWIRL	CONVENTIONAL	VARIABLE
31	VAR GEOM CONST DIA SWIRL DOME % OPEN DZ = 100	2.00	8.75	0.0	14.35	35.40	PRESSURE ATOMIZED	CONVECTION & FILM	SWIRL	CONVENTIONAL	VARIABLE
32	PLUG FLOW/CANTED PRIMARY, INITIAL	0.0	3.59	7.87	15.56	38.10	PRESSURE ATOMIZED	CONVECTION & FILM	AXIAL	CONVENTIONAL	FIXED
33	TANGENTIAL SWIRL	0.0	4.10	6.10	15.56	39.10	PRESSURE ATOMIZED	CONVECTION & FILM	SWIRL	CONVENTIONAL	FIXED
34	SWIRL DOME	0.0	5.20	7.05	14.35	30.00	WALL FUEL FILM	FILM ONLY	SWIRL	CONVENTIONAL	FIXED
35	DELAYED QUENCH	0.0	3.90	6.25	15.55	38.10	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
36	PRECHAMBER, INITIAL DESIGN	3.56	1.62	7.36	15.56	34.10	WALL FUEL FILM	CONVECTION & FILM	SWIRL	PRECHAMBER	FIXED
37	RICH PREMIX/SWIRL	3.40	1.50	7.56	15.56	13.20	PRESSURE ATOMIZED	CONVECTION & FILM	SWIRL	PRECHAMBER	FIXED
38	OPTIMUM PRIMARY	0.0	2.70	7.50	15.56	38.10	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
39	PRECHAMBER, RICHER PRIMARY	3.56	1.62	7.36	15.56	24.80	WALL FUEL FILM	CONVECTION & FILM	SWIRL	PRECHAMBER	FIXED
40	PEPPERPOT DOME	0.0	1.11	9.10	15.56	38.10	PRESSURE ATOMIZED	CONVECTION & FILM	AXIAL	CONVENTIONAL	FIXED
41	PLUG FLOW/CANTED PRIMARY, MOD. A	0.0	3.59	7.87	15.56	38.10	PRESSURE ATOMIZED	CONVECTION & FILM	SWIRL	CONVENTIONAL	FIXED
42	T63-A-5A BASELINE (1ST REPEAT)	0.0	2.70	1.50	9.56	38.10	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
43	FINAL PRECHAMBER, WALL FUEL FILM, INITIAL	4.45	1.59	3.73	12.67	15.00	WALL FUEL FILM	CONVECTION ONLY	SWIRL	PRECHAMBER	FIXED
44	FINAL PRECHAMBER, PRESSURE ATOMIZER, INITIAL	4.45	1.50	3.73	12.67	15.00	PRESSURE ATOMIZED	CONVECTION ONLY	SWIRL	PRECHAMBER	FIXED
45	FINAL MOD CONV INITIAL DES % OPEN DZ = 46	0.0	2.72	4.59	9.56	33.20	PRESSURE ATOMIZED	CONVECTION & FILM	AXIAL	CONVENTIONAL	FIXED
46	FINAL MOD CONV INITIAL DES % OPEN DZ = 100	0.0	2.72	4.59	9.56	28.90	PRESSURE ATOMIZED	CONVECTION & FILM	AXIAL	CONVENTIONAL	FIXED
47	FINAL PRECHAMBER, WALL FUEL FILM, MOD. A	2.95	1.50	3.73	12.67	15.00	WALL FUEL FILM	CONVECTION ONLY	SWIRL	PRECHAMBER	FIXED
48	FINAL PRECHAMBER, PRESSURE ATOMIZER, MOD. A	2.95	1.50	3.73	12.67	15.00	PRESSURE ATOMIZED	CONVECTION ONLY	SWIRL	PRECHAMBER	FIXED
49	FINAL MOD CONV MOD A VAR GEOM % OPEN DZ = 30	0.0	2.72	2.59	9.56	53.90	PRESSURE ATOMIZED	CONVECTION & FILM	AXIAL	CONVENTIONAL	VARIABLE
50	FINAL MOD CONV MOD A VAR GEOM % OPEN DZ = 50	0.0	2.72	2.59	9.56	44.30	PRESSURE ATOMIZED	CONVECTION & FILM	AXIAL	CONVENTIONAL	VARIABLE
51	FINAL MOD CONV MOD A VAR GEOM % OPEN DZ = 68	0.0	2.72	2.59	9.56	38.20	PRESSURE ATOMIZED	CONVECTION & FILM	AXIAL	CONVENTIONAL	VARIABLE
52	T63-A-5A BASELINE (2ND REPEAT)	0.0	2.70	1.50	9.56	38.10	PRESSURE ATOMIZED	FILM ONLY	AXIAL	CONVENTIONAL	FIXED
53	FINAL PRECHAMBER, WALL FUEL FILM, MOD. B	4.50	1.40	3.73	12.67	22.60	WALL FUEL FILM	CONVECTION ONLY	SWIRL	PRECHAMBER	FIXED
54	FINAL PRECHAMBER, PRESSURE ATOMIZER, MOD. B	4.50	1.40	3.73	12.67	22.60	PRESSURE ATOMIZED	CONVECTION ONLY	SWIRL	PRECHAMBER	FIXED
55	FINAL PRECHAMBER, WALL FUEL FILM, MOD. C	4.50	1.40	3.73	12.67	22.60	WALL FUEL FILM	CONVECTION ONLY	SWIRL	PRECHAMBER	FIXED
56	FINAL MOD CONV MOD B % OPEN DZ = 50	0.0	2.72	2.59	9.56	45.10	AIR BLAST	CONVECTION & FILM	AXIAL	CONVENTIONAL	VARIABLE
57	FINAL MOD CONV MOD B % OPEN DZ = 72	0.0	2.72	2.59	9.56	38.20	AIR BLAST	CONVECTION & FILM	AXIAL	CONVENTIONAL	VARIABLE
58	FINAL MOD CONV MOD B % OPEN DZ = 100	0.0	2.72	2.59	9.56	31.90	AIR BLAST	CONVECTION & FILM	AXIAL	CONVENTIONAL	VARIABLE
59	FINAL PRECHAMBER, WALL FUEL FILM, MOD. D	4.50	1.40	3.73	12.67	22.60	WALL FUEL FILM	CONVECTION ONLY	SWIRL	PRECHAMBER	FIXED

TABLE 5. COMBUSTOR PERFORMANCE BY CYCLE POINT

NOMENCLATURE

Output Power	- % of Max Power
Air Flow	- lb/s
Fuel Flow	- lb/hr
Inlet Temp	- Burner Inlet Temperature, °R
Inlet Press	- Burner Inlet Pressure, psia
Smoke Number	- Measured in Accordance with SAE ARP 1179
Comb. Eff.	- Combustion Efficiency, %
DP/P	- Burner Pressure Drop, $\Delta P/P_{inlet}$
TM/TA	- (Max BOT)/(Average BOT)
Pattern Factor	- $\frac{(\text{Max BOT}) - (\text{Avg BOT})}{(\text{Avg BOT})-(\text{BIT})}$
PZ Equiv.	- Primary Zone Equivalence Ratio, $\frac{\text{Primary Zone f/a}}{\text{Stoichiometric f/a}}$

TABLE 5. (CONT.)

COMBUSTOR PERFORMANCE BY CYCLE POINT

--- OUTPUT POWER ---				AIR FLOW		FUEL FLOW	INLET TEMP		INLET PRESS
10.0				1.87		73.7	760.		44.5

	---- EMISSIONS, PPM ----			SMOKE	COMB			PATTERN	
NO	CO	C3H8	NOX	NUMBER	EFF	DP/P	TM/TA	FACTOR	PZ EQUIV
1	893.0	100.0	17.0	3.0	96.63	4.63	1.1150	0.1616	0.4597
2	1031.0	282.5	16.5	2.0	93.27	4.67	1.1380	0.1960	0.4390
3	495.0	49.0	19.0	1.7	98.18	5.10	1.2290	0.3100	0.4597
4	1201.4	340.0	20.8	2.3	92.57	4.59	1.0628	0.0891	0.4597
5	1081.4	160.0	24.5	2.9	95.56	5.03	1.1105	0.1572	0.5561
6									
7	786.1	155.0	11.5	0.4	96.33	9.54	1.0978	0.1367	0.3867
8	306.6	30.0	9.0	0.0	98.93	8.08	1.0952	0.1320	0.4231
9	118.0	5.3	22.0	0.2	99.66	6.65	1.1543	0.2131	0.4585
10	108.6	2.7	34.5	0.0	99.70	5.96	1.1926	0.2653	0.4962
11									
12									
13	270.6	23.0	24.0	0.8	99.13	4.14	1.1189	0.1656	0.5357
14	209.6	16.4	29.0	9.1	99.37	3.82	1.1692	0.2363	0.6635
15	216.4	16.8	32.0	15.2	99.34	3.42	1.1821	0.2536	0.7926
16	225.7	12.6	36.0	23.9	99.42	3.14	1.2543	0.3549	0.9219
17									
18									
19	619.0	70.0	21.0	2.5	99.72	5.42	1.2220	0.3160	0.4597
20	525.0	65.0	24.5	4.4	97.83	5.76	1.3350	0.4670	0.4773
21	966.0	175.0	23.0	1.9	95.26	5.47	1.1170	0.1670	0.4368
22									
23	1042.5	260.0	23.5	4.3	93.76	5.37	1.1521	0.2176	0.4503
24	1004.2	200.0	22.0	3.7	94.77	5.35	1.1719	0.2450	0.4468
25									
26									
27									
28	400.6	36.0	20.5	4.7	98.62	9.02	1.1806	0.2515	0.3649
29	202.9	6.5	32.0	2.3	99.46	7.17	1.2021	0.2804	0.4083
30	170.9	2.4	30.5	2.1	99.58	6.47	1.2214	0.3070	0.4526
31	166.8	1.6	42.0	2.4	99.61	6.18	1.2645	0.3633	0.4962
32	1161.0	260.0	21.0	22.5	93.88	5.56	1.3640	0.5210	0.4597
33	786.0	1380.0	18.0	73.1	74.18	5.63	1.7510	1.1220	0.4597
34	446.0	56.0	24.5	4.2	98.13	6.36	1.1500	0.2120	0.5839
35	587.0	55.0	23.5	29.7	98.06	4.74	1.1430	0.1990	0.4597
36									
37	19.0	0.7	20.0	0.0	99.94	7.42	1.1340	0.1880	1.3270
38	483.0	33.0	24.5	0.0	98.59	5.05	1.1920	0.2630	0.4597
39	525.0	70.0	5.5	0.0	98.09	22.28	1.0900	0.1250	0.7063
40	362.0	21.0	20.0	0.0	98.96	5.63	1.1480	0.2040	0.4597
41	556.0	63.0	21.0	35.4	97.94	5.98	1.0950	0.1340	0.4597
42	966.5	101.0	20.7	8.7	96.55	4.62	1.2074	0.2939	0.4597
43	430.0	6.5	19.5	2.5	99.00	5.90	1.2480	0.3460	1.1678
44	75.0	0.4	14.7	0.0	99.81	6.11	1.1550	0.2150	1.1678
45	250.0	10.0	23.4	1.3	99.29	4.99	1.1566	0.2238	0.4585
46	223.4	6.5	26.9	29.1	99.36	3.72	1.4339	0.6214	0.6082
47	430.0	2.9	19.1	2.2	99.52	5.98	1.2210	0.3070	1.1678
48	84.0	0.7	19.0	0.0	99.78	5.86	1.1330	0.1350	1.1678
49									
50	449.9	25.0	17.9	25.0	98.64	4.37	1.1503	0.2155	0.3954
51	466.0	32.0	20.8	28.0	98.50	4.03	1.2592	0.3685	0.4585
52	856.6	79.0	18.6	10.3	97.08	4.46	1.0954	0.1361	0.4597
53	619.0	140.0	12.2	0.1	96.06	5.98	1.4410	0.6190	0.7751
54	157.0	13.0	11.7	7.1	99.43	5.70	1.2440	0.3040	0.7751
55	458.0	135.0	13.1	2.5	96.51	5.74	1.3010	0.4230	0.7751
56	717.8	15.2	17.9	1.5	98.24	7.00	1.1271	0.1798	0.3884
57	400.6	20.0	18.0	13.0	98.75	5.21	1.1920	0.2731	0.4585
58	397.0	35.0	19.3	22.8	98.53	4.03	1.2240	0.3146	0.5491
59	426.0	85.0	16.7	0.0	99.73	6.14	1.3610	0.5100	0.7751

TABLE 5. (CONT.)

COMBUSTOR PERFORMANCE BY CYCLE POINT

--- OUTPUT POWER ---	AIR FLOW	FUEL FLOW	INLET TEMP	INLET PRESS
25.0	2.20	96.0	813.	54.8

	---- EMISSIONS, PPM ----			SMOKE	COMB			PATTERN	
NO	CC	C3H8	NOX	NUMBER	EFF	DP/P	TM/TA	FACTOR	PZ EQUIV
1	652.0	37.0	32.0	7.0	98.32	4.51	1.1420	0.2019	0.5090
2	786.0	125.0	24.1	3.0	96.73	4.49	1.1310	0.1880	0.4861
3	298.0	15.8	26.5	3.8	99.21	4.61	1.2100	0.2910	0.5090
4	892.7	110.0	25.6	3.4	96.99	4.43	1.0648	0.0929	0.5090
5	751.7	53.0	35.5	4.1	97.92	4.82	1.0835	0.1202	0.6157
6									
7	339.9	19.0	28.0	1.1	99.18	9.22	1.1074	0.1503	0.4281
8	164.8	6.0	35.0	3.4	99.60	8.03	1.1249	0.1761	0.4685
9									
10									
11									
12	376.0	17.0	19.5	0.9	98.99	5.26	1.0883	0.1257	0.4510
13	202.9	9.8	25.5	2.6	99.47	4.46	1.1129	0.1617	0.5931
14	119.9	2.3	33.0	5.2	99.72	3.99	1.1127	0.1601	0.7346
15									
16									
17									
18	465.0	120.0	27.5	0.0	97.32	4.59	1.3020	0.4170	0.5090
19	412.0	18.4	24.0	4.8	98.99	5.55	1.2010	0.2870	0.5090
20	376.0	26.0	25.0	11.6	98.88	5.35	1.3250	0.4600	0.5284
21	718.0	73.0	26.0	3.8	97.59	5.35	1.1270	0.1830	0.4836
22									
23	751.7	99.0	27.5	8.9	97.20	5.37	1.1406	0.2035	0.4986
24	717.8	77.0	24.5	6.9	97.53	5.31	1.1552	0.2237	0.4947
25									
26									
27	619.2	48.0	26.5	5.5	98.22	13.30	1.1089	0.1560	0.3559
28	179.2	5.0	43.0	1.7	99.58	9.14	1.1877	0.2659	0.4040
29	121.8	1.5	53.5	0.3	99.72	7.33	1.1735	0.2443	0.4521
30	139.0	0.9	51.5	0.3	99.69	6.72	1.2209	0.3120	0.5011
31									
32	786.0	120.0	27.0	29.0	97.07	5.52	1.3080	0.4410	0.5090
33	857.0	1020.0	18.5	74.7	81.97	5.40	1.8390	1.2440	0.5090
34	192.0	5.8	38.0	12.4	99.52	6.26	1.2670	0.3800	0.6465
35	426.0	22.0	29.5	41.6	98.95	4.55	1.1740	0.2450	0.5090
36	491.0	42.0	8.0	0.0	98.56	22.97	1.1130	0.1640	0.5687
37	22.0	0.4	26.0	0.0	99.93	7.04	1.1430	0.2030	1.4692
38	279.0	9.0	26.0	0.0	99.39	5.28	1.1770	0.2460	0.5090
39	65.0	1.8	9.5	0.0	99.06	22.58	1.1080	0.1550	0.7870
40	210.0	7.5	36.5	0.0	99.53	5.22	1.1820	0.2580	0.5090
41	350.0	19.2	32.5	43.8	99.12	5.50	1.0930	0.1330	0.5090
42	651.5	60.0	25.7	23.5	98.03	4.22	1.2096	0.3022	0.5090
43	242.0	0.6	25.2	1.8	99.52	5.83	1.2580	0.3690	1.2929
44	124.0	0.3	26.7	0.0	99.74	6.49	1.1280	0.1830	1.2929
45	150.8	2.5	24.5	5.9	99.66	4.86	1.1772	0.2564	0.5077
46	214.1	2.1	33.7	46.6	99.51	3.67	1.3917	0.5728	0.6734
47	242.0	2.6	25.0	4.9	99.57	5.71	1.2400	0.3400	1.2929
48	116.0	0.2	23.1	0.0	99.73	5.64	1.1410	0.1980	1.2929
49									
50									
51	349.5	7.3	29.4	53.0	99.17	3.26	1.2799	0.4113	0.5077
52	651.5	38.0	25.2	20.9	98.28	4.37	1.1430	0.2070	0.5090
53	290.0	40.0	17.3	1.8	98.77	5.15	1.3570	0.5060	0.8581
54	97.0	2.4	19.6	14.1	99.75	5.73	1.2320	0.3290	0.8581
55	143.0	26.0	13.9	0.3	99.21	6.62	1.2830	0.4020	0.8591
56	365.9	4.2	19.3	4.3	99.22	6.69	1.1315	0.1890	0.4300
57	216.4	5.0	22.6	13.6	99.44	4.90	1.2313	0.3341	0.5077
58									
59	186.0	15.0	16.7	0.0	99.37	6.72	1.2940	0.4250	0.8581

TABLE 5. (CONT.)

COMBUSTOR PERFORMANCE BY CYCLE POINT

--- OUTPUT POWER ---	AIR FLOW	FUEL FLOW	INLET TEMP	INLET PRESS
40.0	2.53	119.0	657.	63.7

	---- EMISSIONS, PPM ----			SMOKE	COMB			PATTERN	
NO	CO	C3H8	NOX	NUMBER	EFF	DP/P	TM/TA	FACTOR	PZ EQUIV
1	496.0	15.8	41.1	12.0	98.94	4.53	1.1200	0.1724	0.5487
2	581.0	38.0	32.1	3.4	98.48	4.66	1.1180	0.1710	0.5239
3	186.0	5.1	35.0	3.3	99.58	5.09	1.1980	0.2780	0.5487
4	587.4	34.0	31.4	3.8	98.60	4.64	1.0602	0.0867	0.5487
5	525.3	12.2	40.5	2.4	98.96	5.21	1.0602	0.0878	0.6636
6	495.5	26.0	29.0	3.3	98.88	11.94	1.1369	0.1975	0.4181
7	209.6	6.7	43.5	0.8	99.57	9.66	1.1289	0.1849	0.4615
8	125.6	2.4	49.0	0.3	99.74	8.29	1.0835	0.1201	0.5049
9									
10									
11	587.4	40.0	31.5	1.2	98.55	7.06	1.1027	0.1490	0.3318
12	237.6	4.0	34.5	1.7	99.52	5.73	1.0803	0.1167	0.4862
13	104.5	1.3	41.0	4.3	99.77	4.57	1.1292	0.1860	0.6393
14									
15									
16									
17	1081.4	110.0	23.0	1.3	96.48	8.81	1.1855	0.2741	0.3318
18	390.0	39.0	35.0	11.5	98.83	4.91	1.2060	0.2910	0.5487
19	273.0	6.0	30.5	4.2	99.44	5.57	1.1870	0.2720	0.5487
20	301.0	12.8	31.5	15.5	99.27	5.93	1.2720	0.3890	0.5696
21	495.0	16.5	28.0	5.2	98.87	5.52	1.1550	0.2270	0.5213
22									
23	495.0	19.0	29.5	9.5	98.86	5.57	1.1698	0.2472	0.5374
24	465.2	18.0	31.0	8.9	98.91	5.45	1.1603	0.2340	0.5333
25									
26	1120.8	110.0	33.0	5.2	96.85	18.91	1.0949	0.1390	0.3580
27	362.5	15.4	36.5	3.4	99.17	13.59	1.0792	0.1146	0.3836
28	112.4	1.8	66.0	1.6	99.76	9.04	1.1237	0.1778	0.4355
29	123.7	1.3	66.0	2.3	99.73	7.21	1.1428	0.2049	0.4873
30									
31									
32	587.0	57.0	27.0	24.1	98.36	5.42	1.2970	0.4330	0.5487
33									
34	109.0	1.9	46.0	13.7	99.75	6.22	1.2690	0.3890	0.6968
35	281.0	7.2	37.0	43.9	99.43	4.85	1.1710	0.2430	0.5487
36	127.0	4.2	12.0	0.0	99.74	22.84	1.1090	0.1580	0.6130
37	26.0	0.5	34.5	0.0	99.93	7.04	1.1150	0.1650	1.5837
38	151.0	1.7	40.5	2.6	99.72	5.19	1.1510	0.2140	0.5487
39	35.0	0.2	13.0	0.0	99.94	24.36	1.0850	0.1230	0.8429
40	135.0	2.3	46.0	1.2	99.73	5.32	1.1680	0.2410	0.5487
41	212.0	6.0	42.5	44.1	99.57	5.46	1.1080	0.1560	0.5487
42	525.3	25.0	35.9	34.8	98.79	4.43	1.1612	0.2355	0.5487
43	194.0	0.0	31.6	2.9	99.64	5.86	1.2090	0.2890	1.3936
44	141.0	0.4	36.9	0.0	99.72	6.25	1.1270	0.1830	1.3936
45	101.2	0.7	38.4	11.4	99.79	4.75	1.1617	0.2385	0.5472
46	196.3	0.9	57.0	52.7	99.59	3.53	1.3334	0.4967	0.7259
47	154.0	2.7	29.3	6.2	99.59	5.78	1.2200	0.3170	1.3936
48	135.0	0.7	32.7	0.0	99.70	5.76	1.1540	0.2220	1.3936
49									
50									
51	267.9	3.1	36.5	59.0	99.45	3.17	1.2327	0.3472	0.5472
52	465.2	14.4	31.4	30.6	99.02	4.32	1.1553	0.2275	0.5487
53	127.0	9.8	27.1	1.0	99.61	5.92	1.2770	0.3580	0.9250
54	87.0	0.8	29.4	19.7	99.81	5.66	1.2300	0.3300	0.9250
55	159.0	17.6	19.5	2.4	99.50	7.18	1.2550	0.3650	0.9250
56	262.7	2.6	30.0	4.3	99.47	7.08	1.1155	0.1682	0.4635
57	166.8	2.3	27.9	14.3	99.60	5.18	1.2683	0.3932	0.5472
58	183.4	2.2	36.6	36.4	99.60	3.95	1.1539	0.2212	0.6553
59	129.0	4.4	25.4	0.0	99.65	6.78	1.2300	0.2370	0.9250

TABLE 5. (CONT.)

COMBUSTOR PERFORMANCE BY CYCLE POINT

--- OUTPUT POWER ---				AIR FLOW		FUEL FLOW		INLET TEMP	INLET PRESS
55.0				2.75		143.5		890.	71.5
---- EMISSIONS, PPM ---				SMOKE	COMB			PATTERN	
NO	CO	CHHB	NOX	NUMBER	EFF	DP/P	TM/TA	FACTOR	PZ EQUIV
1	363.0	4.1	45.6	17.0	99.36	4.44	1.1130	0.1628	0.6087
2	470.0	13.0	38.7	4.6	99.09	4.44	1.1170	0.1680	0.5813
3	94.0	1.0	47.0	2.8	99.81	4.91	1.1710	0.2400	0.6087
4	466.0	10.6	38.7	4.4	99.17	4.60	1.0889	0.1268	0.6087
5	379.4	3.1	44.5	2.5	99.38	5.19	1.0719	0.1037	0.7363
6									
7									
8									
9									
10									
11	349.5	3.5	36.0	3.8	99.37	6.68	1.1446	0.2068	0.3681
12	154.7	1.7	43.0	5.5	99.73	5.81	1.0842	0.1219	0.5393
13									
14									
15									
16									
17	656.6	52.0	28.0	1.9	97.90	9.40	1.1651	0.2412	0.3681
18	258.0	10.4	42.0	12.9	99.47	4.78	1.2520	0.3540	0.6087
19	183.0	2.6	44.5	7.4	99.67	5.18	1.1570	0.2270	0.6087
20	223.0	5.4	39.5	20.6	99.56	5.84	1.2500	0.3560	0.5319
21	359.0	4.2	38.5	6.8	99.34	5.24	1.1580	0.2280	0.5784
22									
23	362.5	4.0	29.0	15.8	99.35	5.39	1.1586	0.2302	0.5962
24	355.9	3.2	28.0	12.8	99.36	5.26	1.1427	0.2070	0.5916
25									
26									
27	163.4	2.4	53.5	2.5	99.67	12.57	1.0785	0.1131	0.4255
28	101.2	0.5	77.5	1.7	99.80	8.75	1.1051	0.1504	0.4832
29	141.0	0.4	72.5	2.8	99.74	6.83	1.1521	0.2159	0.5406
30									
31									
32	376.0	22.0	40.5	29.7	99.21	5.58	1.2380	0.3430	0.6087
33									
34	83.0	2.9	53.0	18.8	99.80	5.94	1.1130	0.1620	0.7731
35	171.0	2.1	46.5	51.1	99.71	4.55	1.1570	0.2230	0.6087
36	50.0	0.2	17.0	0.0	99.92	23.13	1.1190	0.1740	0.6801
37	41.0	0.2	48.0	9.6	99.90	7.03	1.1880	0.2710	1.7570
38	76.0	0.4	57.0	5.5	99.86	4.83	1.1810	0.2540	0.6087
39	40.0	0.8	28.0	0.0	99.93	23.85	1.1930	0.2610	0.9352
40	112.0	1.1	60.5	0.1	99.80	5.44	1.1600	0.2290	0.6087
41	151.0	1.1	51.5	50.5	99.74	5.90	1.0950	0.1360	0.6087
42	461.9	11.2	39.2	46.6	99.16	4.34	1.1739	0.2526	0.6087
43	179.0	0.5	42.8	10.5	99.67	5.81	1.2560	0.3720	1.5461
44	171.0	0.6	45.2	4.9	99.66	6.09	1.1110	0.1590	1.5461
45	87.3	0.6	53.1	20.5	99.83	4.74	1.1627	0.2395	0.6071
46	211.9	0.7	59.8	64.9	99.60	3.56	1.2894	0.4307	0.8053
47	179.0	0.8	39.1	14.3	99.62	5.61	1.2360	0.3380	1.5461
48	167.0	0.1	38.7	3.0	99.66	5.83	1.1500	0.2160	1.5461
49	237.6	1.4	28.1	49.6	99.62	4.45	1.2413	0.3489	0.4311
50	245.0	0.8	27.4	56.6	99.60	3.98	1.1423	0.2064	0.5235
51	228.1	1.8	33.7	63.3	99.59	3.31	1.2070	0.3012	0.6071
52	351.0	4.6	37.5	43.9	99.39	4.24	1.1516	0.2189	0.6087
53	167.0	7.2	35.5	0.1	99.60	5.79	1.2900	0.4130	1.0262
54	124.0	0.2	42.2	31.5	99.78	5.38	1.2460	0.3530	1.0262
55	161.0	7.2	29.8	0.1	99.55	6.95	1.2530	0.3640	1.0262
56	181.3	1.7	35.1	10.2	99.65	6.87	1.1276	0.1843	0.5142
57	154.7	2.2	38.4	24.2	99.64	4.97	1.2955	0.4296	0.6071
58									
59	157.0	0.7	40.0	0.0	99.68	6.67	1.2300	0.3350	1.0262

TABLE 5. (CONT.)

COMBUSTOR PERFORMANCE BY CYCLE POINT

--- OUTPUT POWER ---	AIR FLOW	FUEL FLOW	INLET TEMP	INLET PRESS
75.0	2.98	178.5	932.	81.0

	---- EMISSIONS, PPM ----			SMOKE	COMB			PATTERN	
NO	CO	C3H8	NOX	NUMBER	EFF	DP/P	TM/TA	FACTOR	PZ EQUIV
1	214.0	0.7	58.0	25.0	99.68	4.38	1.1040	0.1485	0.6987
2	276.0	2.1	54.8	3.5	99.58	4.57	1.1020	0.1470	0.6672
3	39.0	0.5	68.0	4.2	99.91	4.74	1.1290	0.1810	0.6987
4	257.6	1.7	49.9	3.0	99.64	4.50	1.0659	0.0934	0.6987
5	200.7	0.6	56.0	5.5	99.71	4.90	1.0702	0.0999	0.8451
6									
7									
8	114.3	1.6	91.5	0.0	99.78	7.46	1.1089	0.1548	0.6430
9									
10									
11	135.2	1.5	55.5	4.8	99.78	6.51	1.1396	0.2009	0.4226
12	61.5	1.1	60.5	0.0	99.89	5.48	1.0579	0.0830	0.6191
13									
14									
15									
16									
17	445.9	7.8	27.5	4.7	99.25	8.79	1.1814	0.2609	0.4226
18	139.0	2.1	68.0	20.5	99.77	4.68	1.1940	0.2690	0.6987
19	100.0	1.1	58.5	13.0	99.83	5.02	1.1550	0.2210	0.6987
20	143.0	1.2	52.0	30.4	99.77	5.24	1.2480	0.3510	0.7254
21	228.0	1.6	53.5	10.3	99.63	5.15	1.1980	0.2840	0.6639
22									
23	221.0	0.8	43.0	17.3	99.66	5.02	1.1710	0.2453	0.6844
24									
25	[illegible]	99.0	67.0	3.2	97.79	22.92	1.2937	0.4280	0.4226
26									
27									
28									
29									
30									
31									
32	192.0	4.6	67.0	28.0	99.49	5.41	1.2000	0.2850	0.6987
33									
34	91.0	0.7	68.5	35.5	99.83	5.66	1.2260	0.3270	0.8874
35	47.0	0.9	67.5	43.7	99.84	4.54	1.2290	0.3220	0.6987
36	15.0	1.3	34.5	0.0	99.93	21.57	1.0920	0.1320	0.7807
37	67.0	0.7	84.0	18.7	99.86	6.42	1.1410	0.2020	2.0168
38	33.0	0.4	75.5	13.1	99.93	4.76	1.1930	0.2700	0.6987
39	52.0	0.1	49.5	0.0	99.92	24.25	1.1800	0.2590	1.0735
40	99.0	1.7	82.0	0.2	99.82	5.30	1.1910	0.2670	0.6987
41	[illegible]	0.9	71.5	56.2	99.83	5.43	1.0880	0.1260	0.6987
42	239.6	2.1	49.3	58.6	99.58	4.33	1.1585	0.2275	0.6987
43	147.0	1.1	51.1	26.0	99.69	5.27	1.2760	0.3240	1.7748
44	192.0	0.0	50.3	15.0	99.67	5.83	1.1320	0.1890	1.7748
45	65.3	0.4	69.7	38.5	99.85	4.39	1.1816	0.2655	0.6969
46									
47	157.0	2.3	49.9	25.0	99.62	5.39	1.3120	0.4450	1.7748
48	181.0	0.1	46.1	11.2	99.68	5.66	1.1700	0.2400	1.7748
49									
50	167.7	0.5	42.9	63.7	99.72	3.78	1.1507	0.2158	0.6009
51	183.4	0.8	40.8	69.0	99.69	3.28	1.2371	0.3426	0.6969
52	242.5	1.1	49.0	50.0	99.65	4.02	1.1406	0.2023	0.6987
53	175.0	2.1	51.6	3.3	99.68	5.81	1.2740	0.3860	1.1780
54	153.0	0.6	62.1	52.7	99.75	5.32	1.2250	0.3210	1.1780
55	171.0	1.3	49.1	0.0	99.65	6.62	1.3070	0.4380	1.1780
56	131.3	0.2	44.0	19.8	99.78	6.56	1.1389	0.1999	0.5903
57	154.7	0.8	42.4	38.1	99.70	4.53	1.3183	0.4588	0.6969
58									
59	157.0	0.2	57.4	0.0	99.73	6.15	1.3170	0.4560	1.1780

TABLE 5.1 (CONT.)

COMBUSTOR PERFORMANCE BY CYCLE POINT

--- OUTPUT POWER ---	AIR FLOW	FUEL FLOW	INLET TEMP	INLET PRESS
100.0	3.22	229.5	984.	92.3

NO	---- EMISSIONS, PPM ---- CO	C3H8	NOX	SMOKE NUMBER	COMB EFF	DP/P	TM/TA	PATTERN FACTOR	PZ EQUIV
1	75.0	0.6	81.0	30.0	99.88	4.14	1.0650	0.0915	0.8314
2	99.0	0.2	76.8	4.6	99.86	4.36	1.0990	0.1390	0.7939
3	23.0	0.4	113.3	0.6	99.93	4.59	1.1880	0.2590	0.8314
4	78.2	0.8	71.7	1.4	99.89	4.29	1.0694	0.0972	0.8314
5	71.5	0.5	76.0	1.5	99.89	4.63	1.0707	0.0996	1.0056
6									
7									
8									
9									
10									
11	34.4	1.7	82.0	4.3	99.92	6.30	1.1571	0.2214	0.5028
12									
13									
14									
15									
16									
17	116.2	1.0	56.0	4.0	99.83	8.28	1.1465	0.2059	0.5028
18	57.0	1.2	111.5	22.5	98.89	4.36	1.1610	0.2200	0.8314
19	41.0	0.8	97.5	15.5	99.91	4.34	1.1510	0.2130	0.8314
20	72.0	0.8	86.5	0.0	99.83	4.99	1.1920	0.2670	0.8631
21	109.0	0.5	76.0	14.0	99.84	4.58	1.1490	0.2100	0.7900
22	112.4	0.6	69.0	16.2	99.83	4.72	1.1742	0.2466	0.8185
23									
24									
25									
26									
27									
28									
29									
30									
31									
32	56.0	1.2	110.0	24.2	99.90	4.95	1.1940	0.2740	0.8314
33									
34	72.0	0.5	86.5	57.2	99.87	5.22	1.2310	0.3280	1.0559
35	39.0	0.4	103.0	40.3	99.92	4.46	1.2390	0.3320	0.8314
36									
37	79.0	0.1	136.0	30.7	99.85	6.31	1.1520	0.2150	2.3998
38	17.0	0.0	118.5	14.0	99.94	4.48	1.1550	0.2120	0.8314
39									
40	67.0	1.9	116.0	0.0	99.87	4.82	1.1690	0.2360	0.8314
41	60.0	0.9	101.5	62.9	99.89	5.27	1.0870	0.1220	0.8314
42	112.4	0.8	70.6	55.8	99.85	4.05	1.1209	0.1700	0.8314
43	116.0	1.0	90.9	61.3	99.79	4.75	1.2230	0.3150	2.1118
44	171.0	0.0	56.9	41.9	99.74	5.30	1.2260	0.3200	2.1118
45	62.0	0.5	112.9	51.6	99.88	4.23	1.2021	0.2899	0.8292
46									
47									
48	159.0	0.1	50.5	11.0	99.73	5.21	1.2220	0.3160	2.1118
49									
50	108.6	0.1	69.6	65.5	99.84	3.85	1.2410	0.3432	0.7151
51	123.7	0.0	78.6	75.2	99.82	3.02	1.2318	0.3305	0.8292
52	97.4	0.0	68.3	56.9	99.87	3.91	1.1477	0.2097	0.8314
53									
54	114.0	0.5	82.1	62.1	99.83	5.24	1.2190	0.3070	1.4016
55									
56	97.4	0.2	65.1	31.0	99.85	6.01	1.1451	0.2054	0.7024
57									
58									
59									

Noise Data Acquisition

The combustion noise data which were analyzed in this program were recorded in the DDA Combustion Research Facility using the T63 combustor experimental arrangement shown in Figure 1. The combustion research laboratory provided a semi-reverberant environment for noise measurement so that comparative data between various combustors was obtained. Sound power spectra are obtained from the sound pressure level measurements by comparison with a standard reference sound source.

Noise data were recorded with three microphones in the test cell, located on a line 2 feet to the side of the burner centerline and in line with, 2 feet forward of, and 2 feet aft of the burner dome. The test cell arrangement with one microphone in position is shown in Figure 2. Noise data

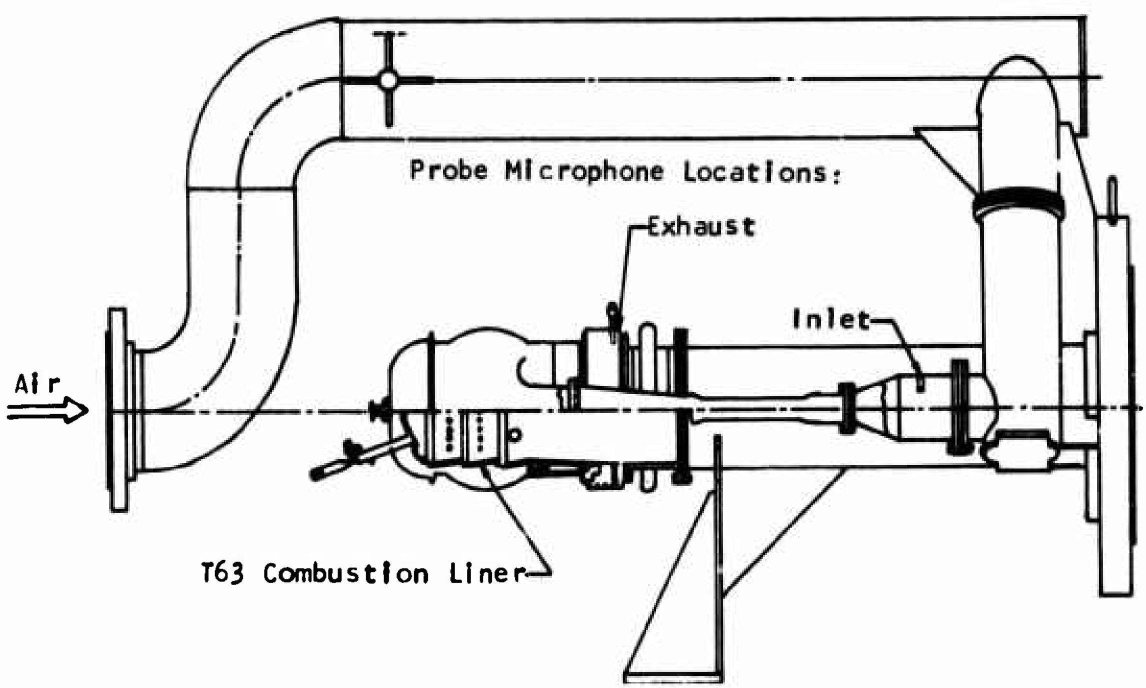

Figure 1. Experimental Installation of T63 Combustor.

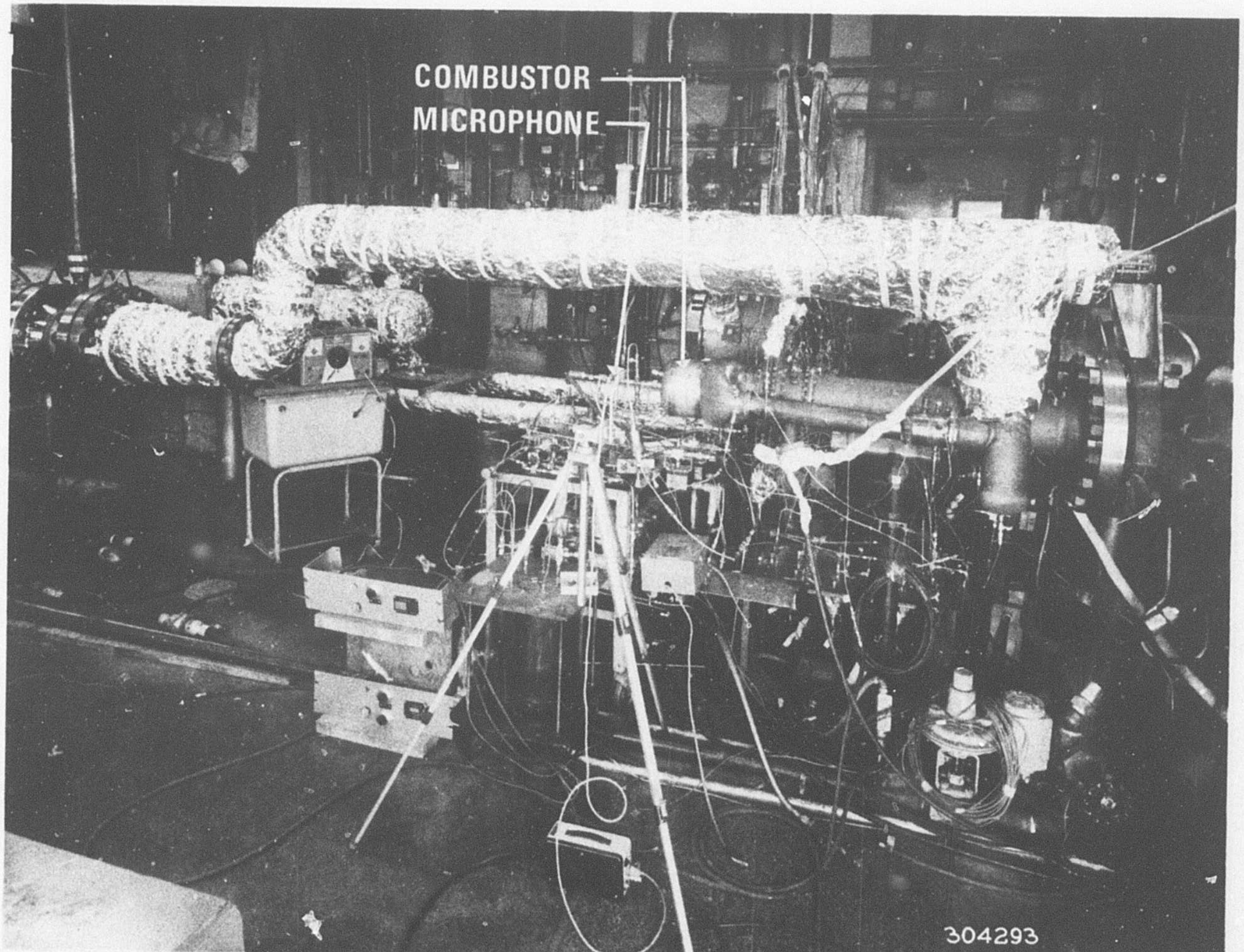

Figure 2. Laboratory Test Cell Arrangement.

from within the burner was also recorded with two probe microphones, one in the burner inlet duct and one in the burner exhaust, located as shown in Figure 1.

The probe microphones consisted of a 1/4-inch-diameter probe tube which was inserted into the high temperature regions of the burner facility. The probe tube passed into a transition section containing the sensing element. The transition is carefully designed to prevent reflections, and is terminated by an "infinite" tube. The probe microphone, transition, and acoustic termination are shown in Figure 3. Data recording instrumentation was as follows:

3 - microphones, Bruel & Kjaer 1/2" condenser, Type 4134
2 - probe microphones, PCB Piezotronics tubular pressure probe
Tape recorder, General Radio Company Type 1525A
Microphone calibrator, General Radio Company Type 1562A

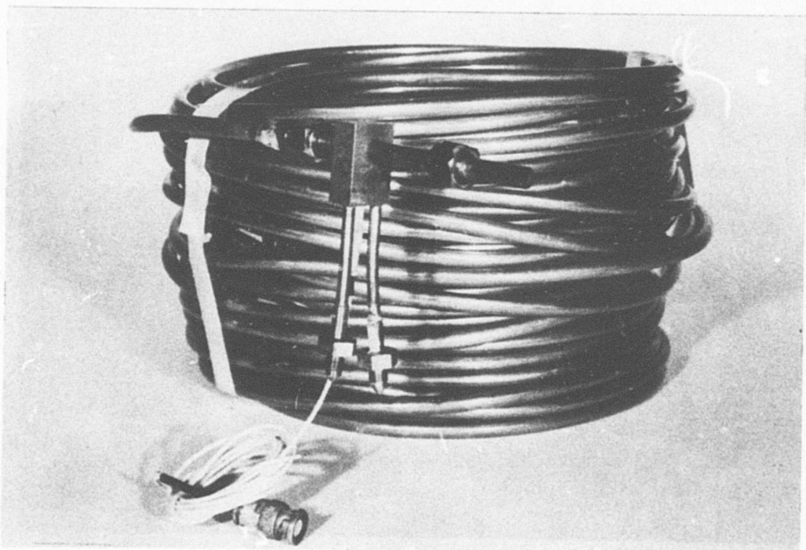

Figure 3. Probe Microphone, Transition, and Acoustic Termination.

Noise Data Analysis

The tape recorded noise data were frequency analyzed by means of a General Radio Company 1/3 octave real-time analyzer, Type 1921. The analyzer output was stored on digital tape and subsequently computer processed to yield 1/3 octave and octave sound pressure level tabulations for each of the three test cell microphones and 2 probe microphones. The tabulated noise data are presented in Appendix I.

Acoustical calibration of the combustion test cell was accomplished by means of a standard reference sound power level source (ILG Industries, Code No. 181-012ZA). The standard source was positioned in the same location as the burner rig and its noise output was recorded and analyzed. Comparison of the measured sound pressure levels with known sound power levels for the standard sound source provides the room calibration curve of Figure 4. By means of this

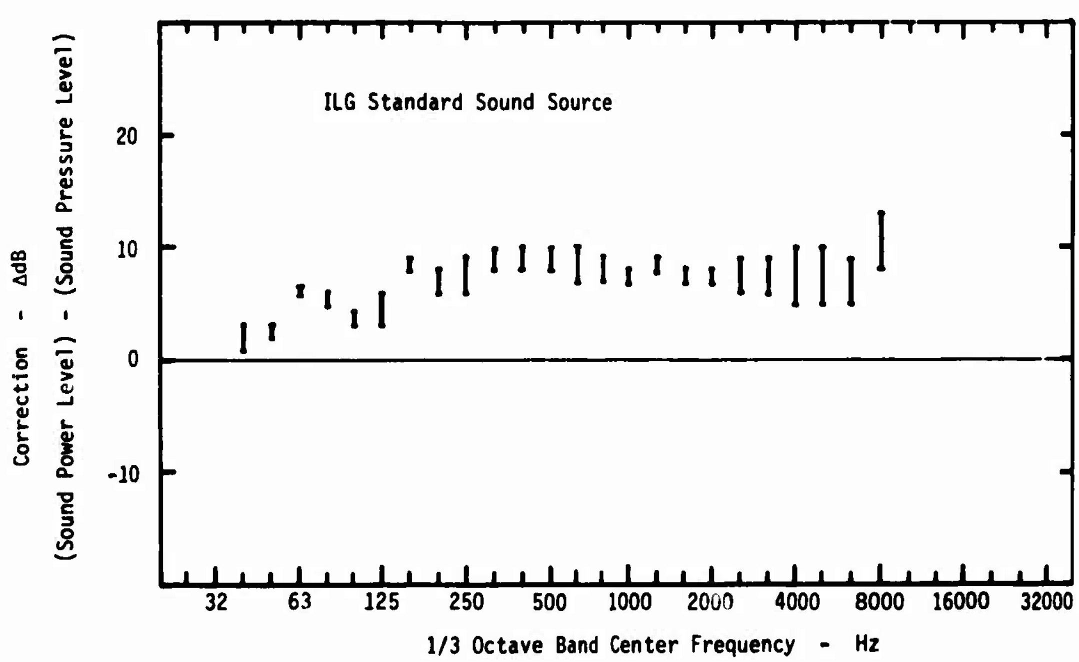

Figure 4. Acoustical Calibration of Combustion Test Cell.

room calibration, the sound power level (dB, re 10^{-12} watts) of the various burner rigs can be established. Standard source measurements were made at the three microphone locations used for burner noise data recording, and, as shown in Figure 4, the sound level variation with position is not great. The sound power level, being a fundamental property of the source, is useful for comparing the noise measured for these burners with other data obtained in other environments. However, caution must be exercised in making such comparisons. For example, the fuel injection mode tests reported in a subsequent section of this report employed a burner with a substantially heavier case, and thus a transfer function different from that of the T63 burner, making comparisons of externally measured levels meaningless. Also, for the engine tests of the low-emission T63 burner (also reported subsequently) levels cannot be compared with these rig tests because the exhaust ducts were open, while the rig system was totally closed.

The frequency bands in which T63 combustion noise exists were determined by comparing sound spectra with and without burning. Figures 5 and 6 show spectra for the baseline burner with and without combustion for the test cell microphone and the inlet probe microphone. Burner inlet conditions were the same with and without burning. For the test cell microphone, 500 Hz was selected as representative of combustion noise, while for the inlet probe 200 Hz was chosen. The high frequency noise increase with burning (Figure 6) is due to the flow discharge velocity, and is not true combustion noise. The levels in the 500 and 200 Hz frequency bands were used for the noise model formulation studies.

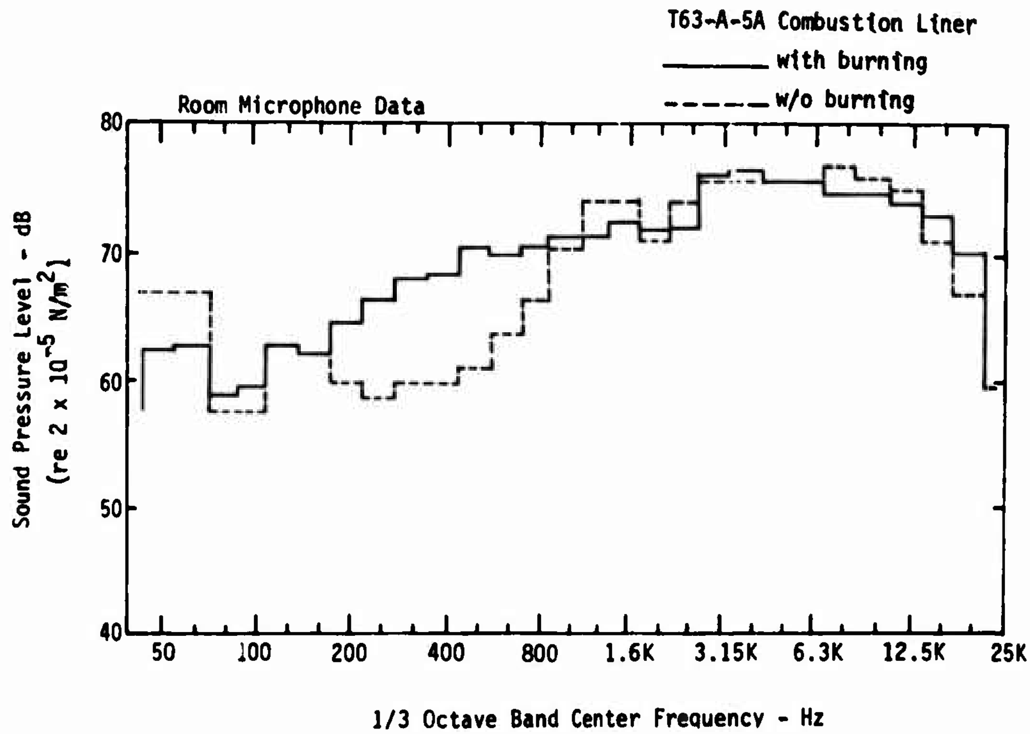

Figure 5. Comparison of Sound Spectra at 40% Power With and Without Burning for the Room Microphone.

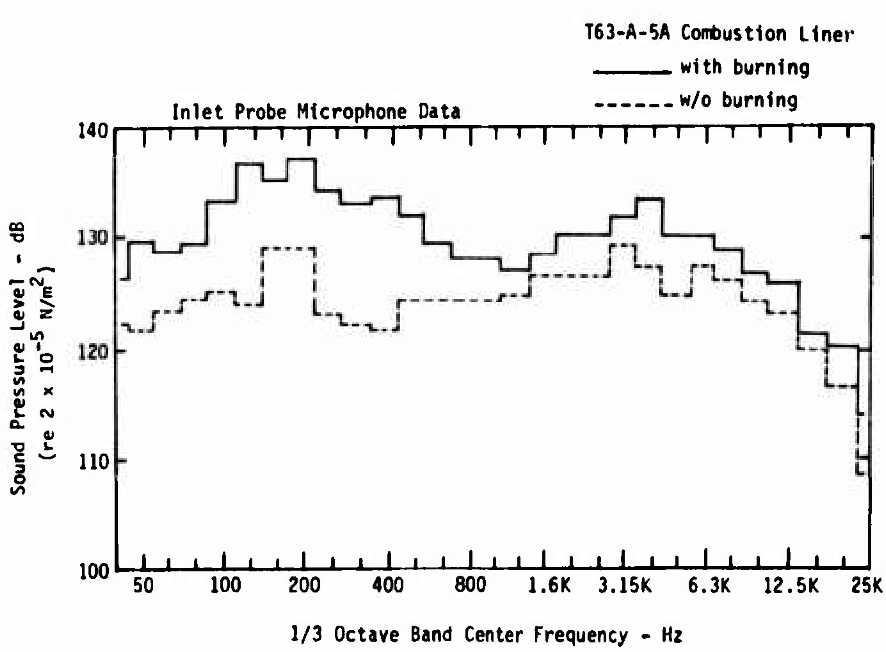

Figure 6. Comparison of Sound Spectra at 25% Power With and Without Burning for the Probe Microphone.

A general relationship of noise increase with power setting is observable in the data for both the room microphone and inlet duct probe microphone (Figures 7 and 8). The outlier points were examined to verify their validity. No explanation of the departure of outlier levels from the general data trend (in terms of combustor design and performance) was found. It is possible to compare the general data t end of Figure 7 with the noise model of Ho and Tedrick[(2)] (which is discussed in the following section) by restructuring the Ho and Tedrick equation to include the parameters known in this study. The result of the comparison is presented in Figure 9. The mean sound pressure level and standard deviation were calculated for the data points (room microphone #2) at each power setting. The Ho and Tedrick noise factor, F, was calculated from cycle parameters at each of the six power settings, and $20 \log_{10} F + C$ follows the straight line in the figure. (The constant C was chosen to adjust the level of the model to the T63 rig data at 100% power. Therefore, only the slope is being compared.) The data fits this model quite well.

Combustor Noise Model

Literature Review

Any practical combustor contains both flow noise and combustion noise sources. Combustion may cause noise by at least three different mechanisms[(3)]:

[(2)] Ho, P. N., and Tedrick, R. N., COMBUSTION NOISE PREDICTION TECHNIQUES FOR SMALL GAS TURBINE ENGINES, International Conference on Noise Control Engineering, Washington, D.C., 1972, pp. 507-512.

[(3)] Strahle, W. C., A REVIEW OF COMBUSTION GENERATED NOISE, AIAA Aero-Acoustics Conference, Seattle, Washington, 1973, AIAA Paper No. 73-1023.

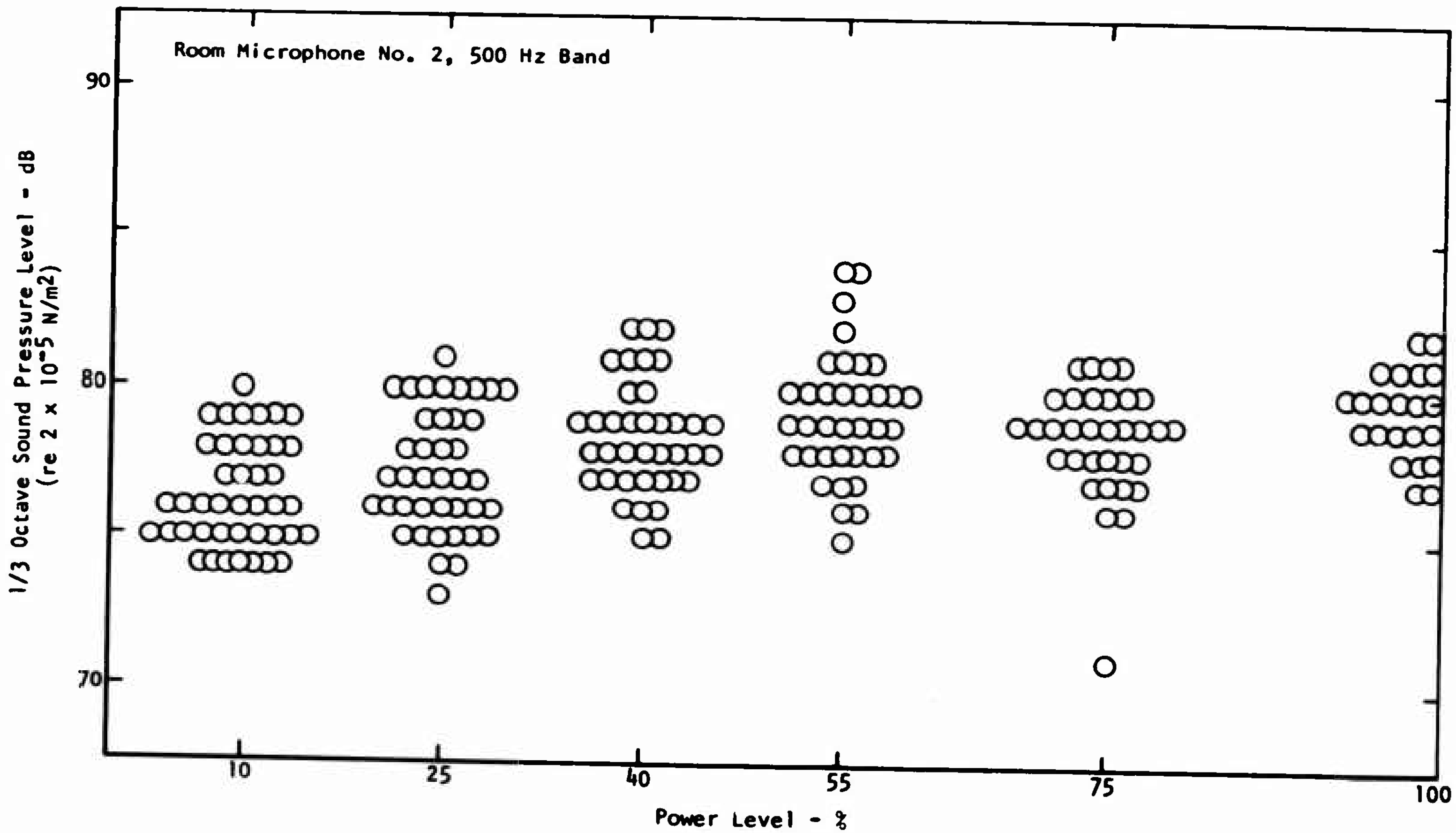

Figure 7. Combustion Noise as a Function of Power Setting (Room).

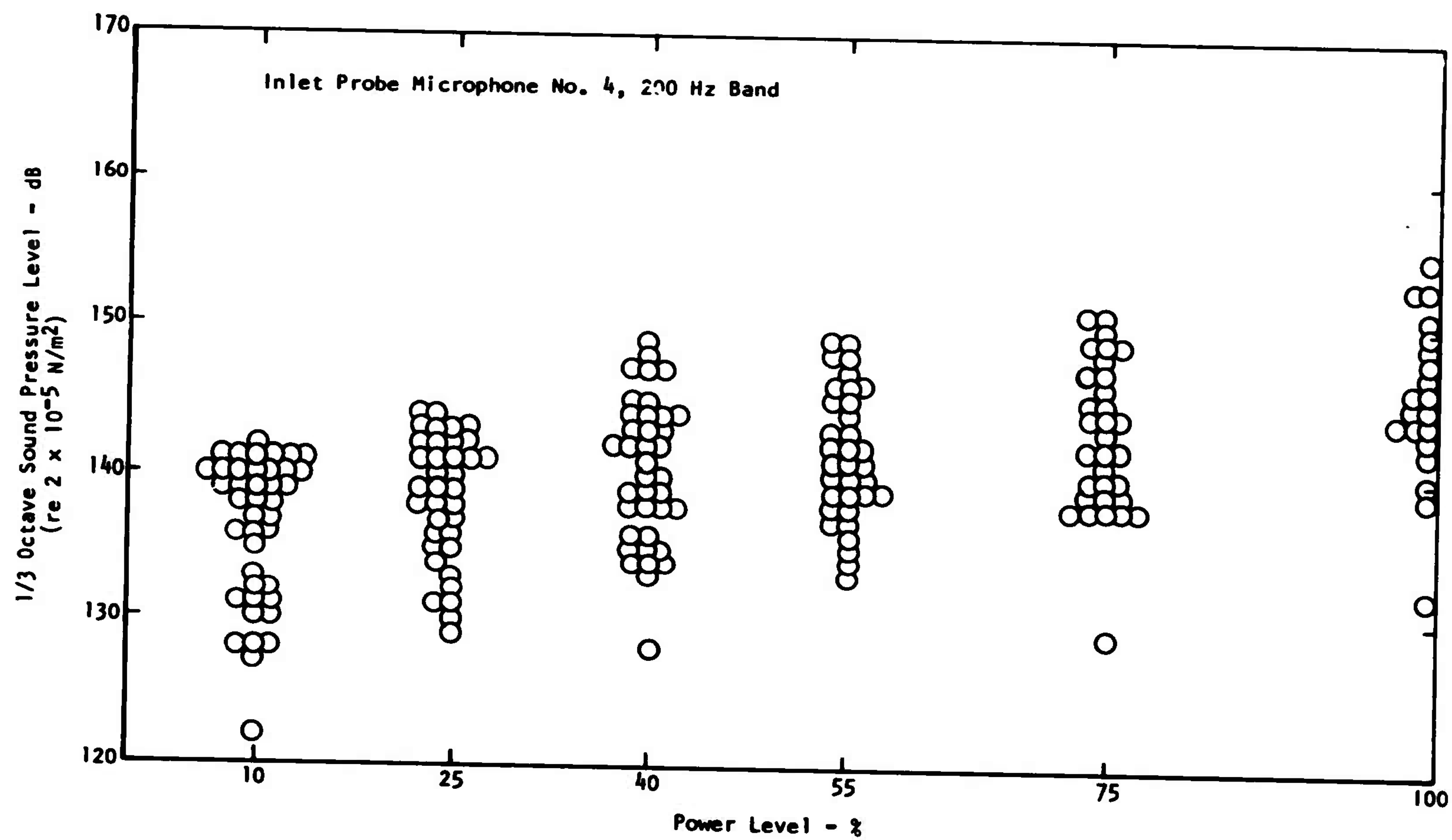

Figure 8. Combustion Noise as a Function of Power Setting (Inlet Probe).

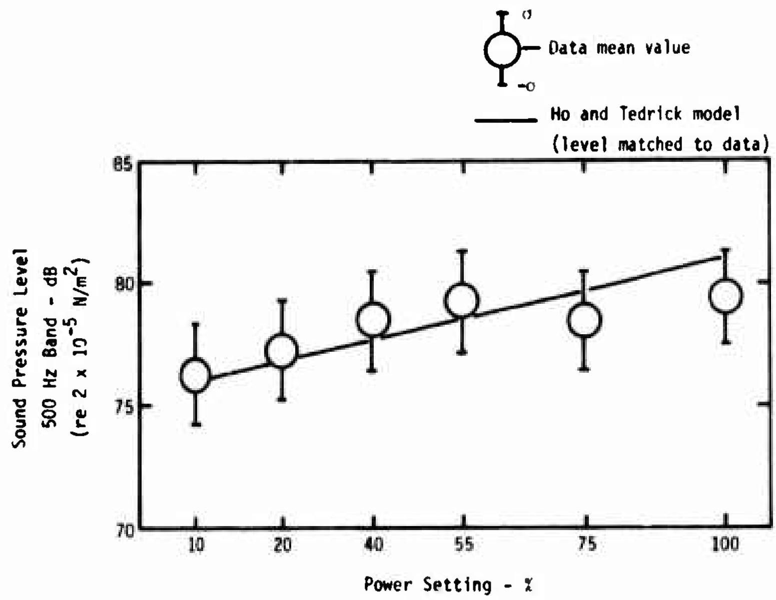

Figure 9. Comparison of Combustor Rig Noise Data (Room) With Ho and Tedrick Model.

1. Turbulence interaction with reaction (direct combustion noise)

2. Combustion process causing an alteration of velocity in a combustor (indirect combustion noise)

3. Convection of hot spots through a region of mean velocity gradient (entropy noise)

Many combustor designs have been investigated as a means of optimizing either size, performance, or noise. Jamieson[(4)] experimented with a multiple port baffle system in order to

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[(4)] Jamieson, J. B., PREMIXED PRIMARY ZONE STUDIES USING A MULTIPLE PORT BAFFLE, Cranfield International Propulsion Symposium, The College of Aeronautics, Cranfield, Bedford, England, 1969.

create a large number of small scale recirculation zones. In this way, an increase in combustor size is reflected only as a diameter increase, with no change in length. While the sizing principle was shown to be feasible, a high noise level was encountered which was unacceptable, although further chamber profile development might have alleviated the problem. Giammar and Putnam[5] examined the combustion roar data from two burner rigs: (1) two impinging fuel jets, and (2) eight almost impinging fuel jets. The effect on noise of firing rate, diameter, spacing, and orientation of the fuel jets was considered. Results showed that noise output increased rapidly with increase in fuel jet spacing and demonstrated a decided break in the rate of increase when the ratio of fuel jet spacing to diameter became large. The most promising design concept for the reduction of combustor noise was reported by Schwartz,[6] who found that the introduction of swirling flow in a combustor accelerates the mixing and combustion processes, increases the flame stability relative to that without swirl, and decreases the flame length and noise levels. Swirl flow has also been shown to reduce exhaust emissions.

The method developed by Abdelhamid, Harrje, and Plett[7] relates the combustion chamber pressure fluctuations to the

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[5] Giammer, R. D., and Putnam, A. A., COMBUSTION ROAR OF TURBULENT DIFFUSION FLAMES, ASME Paper No. 69 WA/FV-3, 1969.

[6] Schwartz, I. R., EFFECTS OF ROTATING FLOWS ON COMBUSTION AND JET NOISE, AIAA Paper No. 72-645, June 1972.

[7] Abdelhamid, D. T., et.al., NOISE CHARACTERISTICS OF COMBUSTION AUGMENTED HIGH-SPEED JETS, AIAA 11th Aerospace Sciences Meeting, Washington, D.C., 1973, AIAA Paper No. 73-189.

noise in the far-field using airflow, initial combustor velocity, and nozzle radius as the important combustor parameters. Since this method relies on measuring pressure fluctuations inside a combustor, it alone is not applicable as a technique for predicting combustion noise. Smith and Kilham[8] concluded that the generated combustor power level is proportional to flow velocity (U), laminar combustion velocity (U_b, flame speed), and burner diameter (D):

$$P \,\alpha\, \rho\, U^3 D^2 \,(U/c)\, (U_b/U)^2 = \frac{\rho}{c} (UDU_b)^2$$

From this it can be seen that combustor noise is proportional to U^2, D^2, and U_b^2. No data was presented to give a practical verification to this equation. Shivashankara, Strahle, and Handley[9] combined their data with the data of Reference 8 and generated the following regression equation from radiated power level:

$$P = 4.89 \times 10^{-5}\, U^{2.68}\, D^{2.84}\, U_b^{1.35}\, F_m^{.41}$$

where F_m = fuel mass fraction. Contrary to Reference 8, Shivashankara, et.al.,found that the power level is approximately proportional to $(UD)^{(3)}$. Correlation with the base data was good, which is to be expected. Further attempts to correlate this equation with independently arrived at combustion data are necessary before its accuracy can be truly evaluated.

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[8] Smith, T. J. B., and Kilham, J. K., NOISE GENERATION BY OPEN TURBULENT FLAMES, J. Acoust. Soc. Amer., Vol. 35, p. 715, 1963.

[9] Shivashankara, B. N., et.al., COMBUSTION NOISE RADIATION BY OPEN TURBULENT FLAMES, AIAA Aero-Acoustics Conference, Seattle, Washington, 1973, AIAA Paper No. 73-1025.

Ho and Tedrick[2] utilized the Buckingham π-Theorem to dimensionally derive a noise factor, F, for their attempts at predicting combustion noise. The result of their analysis indicates that two equations are required to predict the acoustical power level generated by a given design:

$$PWL = 40 \log_{10} F + 23 \text{ (Engine Combustion)}$$

$$PWL = 20 \log_{10} F + 81 \text{ (Rig Combustion)}$$

where $F = (T_4 - T_3)\,(V_d D_e)^{\frac{1}{2}}\,(1 + f)\,(P_4/T_4)^{\frac{1}{2}}$

T_3 = Combustor inlet temperature

T_4 = Combustor discharge temperature

P_4 = Combustor discharge pressure

V_d = Combustor discharge velocity

D_e = Equivalent discharge diameter

f = Fuel/air ratio

It is possible to restructure the equation for the noise factor to show that F is a function of the temperature rise across the combustor, the mass flow from the combustor discharge, and the combustor diameter. The term $(1 + f)$ can be ignored since for all practical purposes it is unity. This does not eliminate fuel/air ratio from the equation since the temperature rise across the combustor is a function of f.

Plett, et.al.,[10] take an analytical approach to combustor noise calculation and derive a wave equation in terms of

[10] Plett, E. G., et.al., RESEARCH ON NOISE GENERATED BY DUCTED AIR-FUEL COMBUSTION SYSTEMS, ONR Contract N00014-67-A-0151-0029, Department of Aerospace and Mechanical Sciences, Princeton University, March 1973.

heat release rate, pressure, temperature, velocity and area. Solution of this equation requires that the flame structure be prescribed and the nature of the fluctuation in the total heat production due to turbulence be known. Although no attempt was made to find an exact solution to this wave equation, a one-dimensional approximation indicates that the sound pressure level of the radiated wave is proportional to the intensity of the turbulence. The proportionality factor is a function of the rate of total heat production in the reaction zone, the Mach number, and the frequency of the turbulent fluctuation. The most important nondimensional parameter is the ratio of the rate of chemical energy release to the typical convective energy.

Strahle[11] presents analytical results which prove that regardless of the turbulence structure, the far-field sound pressure is directly proportional to the first Eulerian time derivative of the chemical reaction rate integrated over the reacting volume. For sound wavelengths sufficiently large compared with the integral scale of turbulence, scaling rules for the combustion noise output have been generated for three models of the turbulent flame:

1. wrinkled laminar flame
2. slow reaction case
3. fast reaction case

[11] Strahle, W. C., SOME RESULTS IN COMBUSTION GENERATED NOISE, AIAA Paper No. 72-198, AIAA 10th Aerospace Sciences Meeting, San Diego, California, January 1972.

These results, valid only for fuel-lean premixed flames, explain the observed scaling rules on an order of magnitude basis. Combustion parameters included in this analysis are:

steady-state density ahead of flame
steady-state speed of sound ahead of flame
fuel mass fraction
relative turbulence intensity
flow velocity
laminar flame speed
"eddy" size
burner diameter
steady-state thermal diffusivity of cold gas

Strahle concludes that there is a need for the determination of the relationship between the integral scale of turbulence and the physical and chemical variables.

Two contradictory opinions concerning the location of the peak frequency for combustion noise are contained in the literature. Smith and Kilham[8] are of the opinion that the peak frequency can be expressed in the form of a Strouhal number relating exit diameter, flow, combustion velocity, and frequency, although this relationship is not presented. Shivashankara, et.al.,[9] feel that combustion noise does not correlate well with Strouhal type scaling and have used a regression analysis to get:

$$f_p = 11.83\ U^{.19} U_d^{.53} D^{-.08} F_m^{-.69}$$

Unfortunately, due to the background noise levels encountered, the data being analyzed in this report does not lend itself to the investigation of combustor noise spectrum shaping.

Model Formulation

The data taken during the rig tests were analyzed in an attempt to generate an empirical combustor noise prediction model. A stepwise multiple linear regression analysis of the combustor data was performed using the Detroit Diesel Allison computer program OSBB38. This program allows the user to completely define his problem as to the number of variables, number of data points (within an upper limit), the format used to input the data, and any of several transformations which may be applied to the data.

The program reads a set of control variables, a set of alteration cards (which may be null), and finally a set of data points. The transformations (addition, subtraction, multiplication, etc.) specified by the alteration cards are then applied to each data point to generate the specified model. This model is then fed into a stepwise multiple linear regression routine which minimizes the error in the sense of least squares to obtain the regression equation.

A significance test using the F-distribution with 1 and N-K-1 degrees of freedom is provided to allow the program to select only those variables among the ones provided which significantly reduce the least square error, where N is the number of data points and K is the number of independent variables. However, this value for F must be read in,as the F-distribution is rather large to build into the program. Also, providing this parameter as input allows the user to force all variables which are linearly independent to within a prescribed calculable precision into the regression equation.

The regression equation along with the observed and calculated values of the dependent variable as well as the actual and percentage differences between the two values are printed as output. The resulting equation takes the form:

$$SPL = C_1 \log(p_1) + C_2 \log(P_2) + \ldots + C_i \log(P_i) + K \qquad (1)$$

where: $C_1 - C_i$ are numerical coefficients for each term in the equation calculated by OSBB38

$P_1 - P_i$ are the independent parameters determined to give the best data fit

K is a numerical constant calculated by OSBB38

The acoustic and performance data were divided into two groups. The first and largest is the data used during the initial regression analysis study, referred to as the correlation data. There are 215 data points in this group which cover the range of combustors from 10% to 100% power. A statistical analysis of this sample shows the average SPL measured at microphone 2 to be 78.1 dB with a standard deviation of only 2.9 dB, in spite of the number of combustors in the group and the wide range of power settings.

The second and smallest data group is the data used to evaluate the combustor noise model generated from the correlation data. There are 38 data points in this group representing seven combustors. The average SPL for this data group is 79.9 dB with a standard deviation of 2.1. It should be noted that both data groups are statistically similar and neither group contains a large SPL spread. This makes a definitive correlation difficult to generate.

The correlation parameters which were considered in the regression analysis are:

- Engine horsepower - HP
- Fuel air ratio - f/a
- Combustor discharge velocity - V
- Fuel preparation length - L_{fp}
- Primary zone length - L_{pz}
- Intermediate zone length - L_{iz}
- Total length - L_{tot}
- Flow split - F_s
- Equivalence ratio - e
- Emissions
  - CO (ppm)
  - C_3H_8
  - NO_x
  - Smoke number
- Efficiency - η
- Pressure drop - $\Delta P/P$
- Temperature ratio - T_m/T_a
- Pattern factor - P_f
- 1/3 octave band SPL:
  - 500 Hz band SPL external to burner - SPL_2
  - 200 Hz band SPL burner inlet duct - SPL_4

Two other parameters, combustor diameter and laminar flame speed, are desirable to have in the analysis since the literature search indicated that they were included in several other combustor noise models. However, for the combustor data available for this analysis, these parameters are essentially constant and would not contribute to the correlation.

The data was evaluated in an attempt to achieve three

correlations:

1. Emissions - Performance
2. Noise - Emissions
3. Noise - Performance

The procedure used was to process various combinations of the correlation parameters with OSBB38, then analyze each result with regard to its being a feasible correlation model. The many parameter combinations analyzed are indicated in Table 6. The results of the analyses are discussed below.

Emissions-Performance Correlation

Results of the regression analysis indicated that there is no parameter or combination of parameters that will consistently correlate with the emission levels within ± 5%. Therefore, it is concluded that the emission data used in this study does not correlate with the available performance parameters.

Noise-Emission Correlation

An attempt was made to correlate the microphone 2 SPL's with the emission indices. Both the correlation data and the evaluation data groups were analyzed in this manner. The input parameters are shown in Table 6 for runs 49-53 and the resulting correlation equations are indicated in Table 7. The numbers represent the coefficients C_1 - C_i and the constant K (see Equation 1).

It is clear from the table that the only parameter which provides a correlation is NO_x. Although there is an indication of correlation with the other three emission indices, an examination of the constants (K)

TABLE 6. REGRESSION ANALYSIS RUNS

RUN NO.	DEPENDENT PARAMETER	INDEPENDENT CORRELATION PARAMETERS																
		H.P.	F/A	V_D	L_{FP}	L_{PZ}	L_{IZ}	L_{TOT}	FLOW SPLIT	EQUIV. RATIO	CO	C_3H_8	NO_x	SMOKE	η	$\Delta P/P$	T_m/T_a	PATTERN FACTOR
	NOISE - PERFORMANCE CORRELATION																	
1	Mic. 2-10% H.P.		x	x					x	x					x	x	x	x
2	Mic. 2-25% H.P		x	x					x	x					x	x	x	x
3	Mic. 2-40% H.P.		x	x					x	x					x	x	x	x
4	Mic. 2-55% H.P.		x	x					x	x					x	x	x	x
5	Mic. 2-75% H.P.		x	x					x	x					x	x	x	x
6	Mic. 2-100% H.P.		x	x					x	x					x	x	x	x
7	Mic. 4-10% H.P.		x	x					x	x					x	x	x	x
8	Mic. 4-25% H.P.		x	x					x	.					x	x	x	x
9	Mic. 4-40% H.P.		x	x					x	x					x	x	x	x
10	Mic. 4-55% H.P.		x	x					x	x					x	x	x	x
11	Mic. 4-75% H.P.		x	x					x	x					x	x	x	x
12	Mic. 4-75% H.P.		x	x					x	x					x	x	x	x
13	Mic. 2-Corr. Data	x	x	x	x	x	x		x	x								
14	Mic. 4-Corr. Data	x	x	x	x	x	x		x	x								
15	Mic. 2-Corr. Data	x	x	x				x	x	x					x	x	x	x
16	Mic. 2-Corr. Data		x	x				x	x	x					x	x	x	x
17	Mic. 2-Corr. Data	x	x					x	x	x					x	x	x	x
18	Mic. 2-Corr. Data	x	x	x					x	x					x	x	x	x
19	Mic. 2-Prechamber		x	x				x	x	x					x	x	x	x
20	Mic. 2-Conventional		x	x				x	x	x					x	x	x	x
21	Mic. 2-Wall Film		x	x				x	x	x					x	x	x	x
22	Mic. 2-Other		x	x				x	x	x					x	x	x	x
23	Mic. 2-Axial		x	x				x	x	x					x	x	x	x
24	Mic. 2-Swirl		x	x				x	x	x					x	x	x	x
25	Mic. 4-Corr. Data	x	x	x				x	x	x					x	x	x	x
26	Mic. 4-Corr. Data		x	x				x	x	x					x	x	x	x
27	Mic. 2-Corr. Data		x	x				x	x	x						x	x	x
28	Mic. 2-Eval. Data		x	x				x	x	x						x	x	x
29	Mic. 2-Eval. Data		x															
30	Mic. 2-Eval. Data			x														
31	Mic. 2-Eval. Data							x										
32	Mic. 2-Eval. Data								x									
33	Mic. 2-Eval. Data									x								
34	Mic. 2-Eval. Data															x		
35	Mic. 2-Eval. Data																x	
36	Mic. 2-Eval. Data																	x
37	Mic. 2-Corr. Data		x															
38	Mic. 2-Corr. Data			)														
39	Mic. 2-Corr. Data							x										
40	Mic. 2-Corr. Data								x									
41	Mic. 2-Corr. Data									x								
42	Mic. 2-Corr. Data															x		
43	Mic. 2-Corr. Data																x	
44	Mic. 2-Corr. Data																	x

TABLE 6. (CONT.)

RUN NO.	DEPENDENT PARAMETER	INDEPENDENT CORRELATION PARAMETERS																
		H.P.	F/A	V_D	L_{FP}	L_{PZ}	L_{17}	L_{TOT}	FLOW SPLIT	EQUIV. RATIO	CO	C_3H_8	NO_x	SMOKE	η	$\Delta P/P$	T_mT_a	PATTERN FACTOR
	NOISE - EMISSION CORRELATION																	
45	Mic. 2-10% H.P.										X	X	X	X				
46	Mic. 2-25% H.P.										X	X	X	X				
47	Mic. 4-10% H.P.										X	X	X	X				
48	Mic. 4-25% H.P.										X	X	X	X				
49	Mic. 2-Corr. Data										X	X	X	X				
50	Mic. 2-Corr. Data										X							
51	Mic. 2-Corr. Data											X						
52	Mic. 2-Corr. Data												X					
53	Mic. 2-Corr. Data													X				
54	Mic. 2-Eval. Data										X	X	X	X				
55	Mic. 2-Eval. Data										X							
56	Mic. 2-Eval. Data											X						
57	Mic. 2-Eval. Data												X					
58	Mic. 2-Eval. Data													X				
	EMISSIONS - PERFORMANCE CORRELATION																	
59	CO	X	X	X	X	X	X		X	X					X	X	X	X
60	C_3H_8	X	X	X	X	X	X		X	X					X	X	X	X
61	NO_x	X	X	X	X	X	X		X	X					X	X	X	X
62	Smoke	X	X	X	X	X	X		X	X					X	X	X	X

X - Indicates which parameters OSBB38 were given for consideration, not necessarily those in the final equation.

TABLE 7. CORRELATION COEFFICIENTS FOR CORRELATION DATA

RUN NO.	DEPENDENT PARAMETER	INDEPENDENT PARAMETERS				
		CO	C_3H_8	NO_x	SMOKE	K
49	Mic.2-Corr. Data			4.47	-.62	71.6
50	"	-1.29				81.1
51	"		-.55			78.5
52	"			3.02		73.4
53	"				-.31	78.4

reveals their proximity to the average SPL for the data set (78.1 dB), which indicates no real correlation. The correlation of noise level with NO_x was not surprising since they both tend to increase with power setting.

Table 8 presents the results for the evaluation data (runs 54-58, Table 6).

TABLE 8. CORRELATION COEFFICIENTS FOR EVALUATION DATA

RUN NO.	DEPENDENT PARAMETER	INDEPENDENT PARAMETERS				
		CO	C_3H_8	NO_x	SMOKE	K
54	Mic.2-Eval. Data			-2.26		83.4
55	"					79.9
56	"		.77			79.9
57	"					79.9
58	"					79.6

The inconsistency of these results indicates that the evaluation data does not correlate with the emission indices. The fact that the data correlates with NO_x when analyzed collectively in run 54 (note opposite sign from evaluation data set) but shows no correlation when analyzed alone, run 57, is due to the fact that the size of the data sets analyzed for each run varied because not every data point had a measured value for each emission index.

The results of the noise-emission correlation indicate that grouping of the data has a serious effect on the resulting correlation. In other words, there is no consistent trend in all of the data relating SPL to emissions.

Noise-Performance Correlation

The major correlation effort was directed toward the derivation of a noise correlation model based on performance parameters, represented by runs 1-44 in Table 6. There were two dependent variables used in the analyses: the room-measured SPL, Mic. 2; and the duct-measured SPL, Mic. 4. As will be discussed later, Mic. 4 provided poor data correlation and was not used in much of the study.

The initial plan called for the generation of the combustion noise model from the correlation data and the evaluation of that model with the evaluation data. The first step was to subdivide the correlation data into groups by power setting and analyze these data groups to see if they exhibited the same correlation trends, runs 1-6 in Table 6. The OSBB38 results are shown in Table 9.

TABLE 9. POWER GROUPING CORRELATION COEFFICIENTS

Run No.	Dependent Parameter	Independent Parameters					
		V_D	Flow Split	η	$\Delta P/P$	T_m/T_a	K
1	Mic. 2-10% H.P.				3.42		80.47
2	Mic. 2-25% H.P.		2.68		5.47		85.81
3	Mic. 2-40% H.P.	-94.02	3.50		14.64	71.38	255.33
4	Mic. 2-55% H.P.			-423.83	5.15		84.68
5	Mic. 2-75% H.P.		3.16	-737.78	3.25		83.60
6	Mic. 2-100% H.P.		5.67	-516.27	14.67		101.46

The following conclusions can be drawn from Table 9.

1. No single set of parameters correlates all data groups. Only one, $\Delta P/P$, appears in all correlations.

2. In four cases, 1, 2, 4 and 5, the correlation is essentially independent of the performance parameters. This is true since K for these cases is nearly equal to the average SPL for each group.

3. Run 3 contained outlier data points which resulted in a correlation inconsistent with the others. Subsequent examination of this data indicated that these outlier points were the result of incorrectly recorded noise levels. Due to the results of the other correlations in this group, no attempt was made to rerun correlation 3.

Based on these results, it was decided to direct future effort to the whole correlation data set. Runs 16-18, Table 6 were made and analyzed with the most promising

correlation resulting from the parameters of run 16. It was then decided to use these same parameters and investigate to see if combustor type has any appreciable effect on the correlations. These runs are represented by numbers 19-24. The combustors were divided into the following groupings:

1. Prechamber - Conventional
2. Wall Film Cooling - Other
3. Axial Flow - Swirl Flow

These results are shown in Table 10.

TABLE 10. COMBUSTOR CATEGORIZATION CORRELATION COEFFICIENTS

Run No.	Dependent Parameter	Independent Parameters								
		f/a	V_D	L_T	Flow Split	η	$\Delta P/P$	T_m/T_a	Pattern Factor	K
16	All Mic. 2 Data	12.44		4.7	3.53	11.43	3.96			102.78
19	Prechamber	16.76	3.59		4.46			-15.64		107.12
20	Conventional	13.78		3.53						110.86
21	Wall Film	19.14		-92.04	3.76	-96.57	11.49	-43.10		235.95
22	Other	13.88	2.55	3.73	2.97	13.61	7.06			106.38
23	Axial	16.58	3.81	4.96	-6.10		14.08			113.14
24	Swirl	11.76		-9.10	3.76		3.7		-1.34	116.17

These conclusions can be drawn from the table:

1. The correlation coefficients for the parameters f/a, L_T, F_S, and $\Delta P/P$ are, in general, similar in magnitude and sign. The exceptions to this (most notably the wall film correlation) are again due to the occurrence of outlier points in these data groups.

2. Not enough evidence is available in the above study to warrant the evaluation of any correlation except 16.

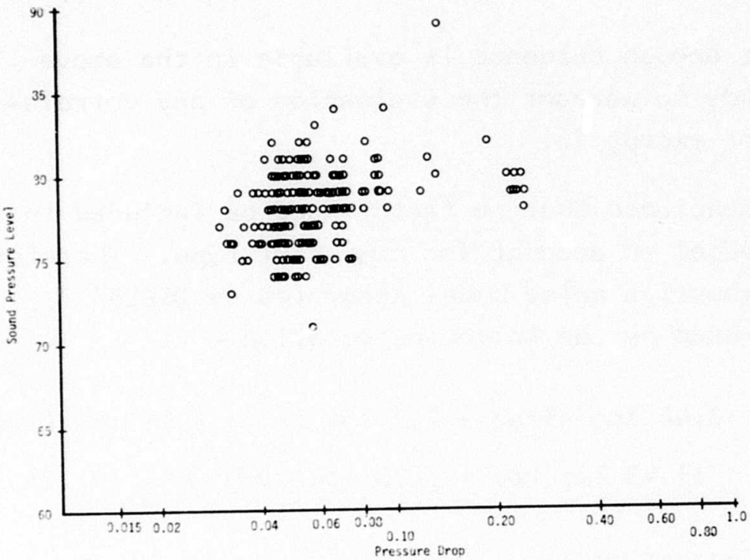
It is concluded that no factor need be included in the noise model to account for combustor type. Therefore, the combustion noise model generated by OSBB38 is represented by the following equation:

$$SPL_2 = 12.44 \log (f/a) + 4.7 \log (L) + 3.53 \log (\text{flow split}) + 11.43 \log (\eta) + 3.96 \log (\Delta P/P) + 102.78 \quad (2)$$

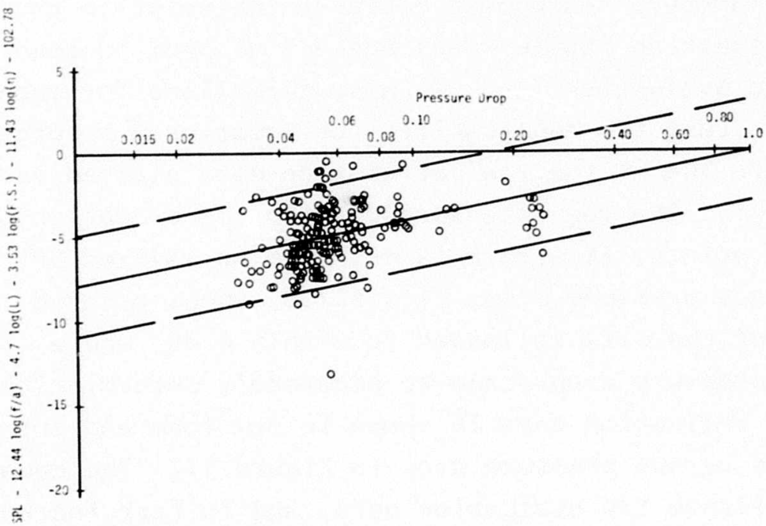
Model Evaluation

An extensive evaluation of Equation 2 was undertaken. The correlation data was plotted in raw form and normalized form for each parameter. Each plot contains the solution to the normalized equation (solid line) and $\pm$ 3 dB band (dashed lines). The evaluation data was also normalized for each parameter to test the applicability of Equation 2 to other data. Figure 10a is the raw correlation data plotted versus pressure drop. The raw data spread, with the exception of two outlier points, is within 13 dB. The normalized SPL plotted versus pressure drop, Figure 10b, shows a large percentage of the data collapsed to within 6 dB, and a sufficient pressure drop range to accurately determine the slope. The evaluation data is shown in raw form and normalized form plotted versus pressure drop in Figure 11. The equation does not collapse the evaluation data, and in fact increases the data spread.

The other performance parameters in the correlation model have been evaluated in the same manner as discussed above.

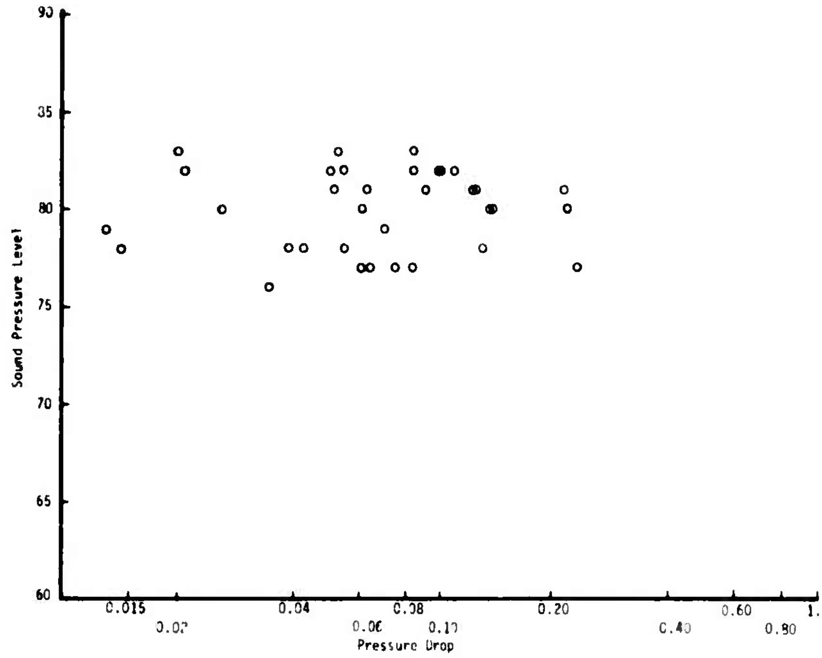


a) Raw Correlation Data Set

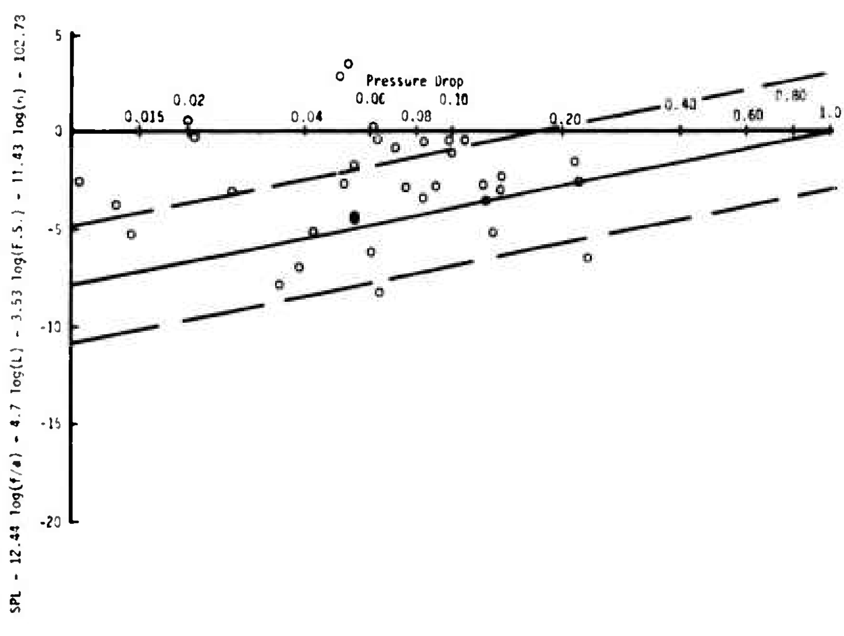


b) Normalized Correlation Data Set

Figure 10. Microphone 2, Pressure Drop Normalization of Correlation Data.



a) Raw Evaluation Data Set



b) Normalized Evaluation Data Set

Figure 11. Microphone 2, Pressure Drop Normalization of Evaluation Data.

Figure 12 is for combustor length; Figure 13 is for primary zone flow split; Figure 14 is for fuel/air; and Figure 15 is for efficiency. The results as discussed for pressure drop also hold true for length, flow split, and fuel/air. The efficiency parameter appears to be an unwise choice for use in the correlation since the data spread along the efficiency axis is insufficient to justify the slope assigned to it. Therefore, the same parameters, with the exception of efficiency, have been run through the regression analysis (run 27, Table 6) with the following results:

$$SPL_2 = 12.98 \log (f/a) + 4.64 \log (L_T) - 1.71 \log (\text{Equiv. Ratio}) + 4.02 \log (\Delta P/P) + 104.95 \quad (3)$$

$$\text{Since equivalence ratio} = \frac{(f/a)}{(f/a)_{stoichiometric} \cdot \text{flow split}}$$

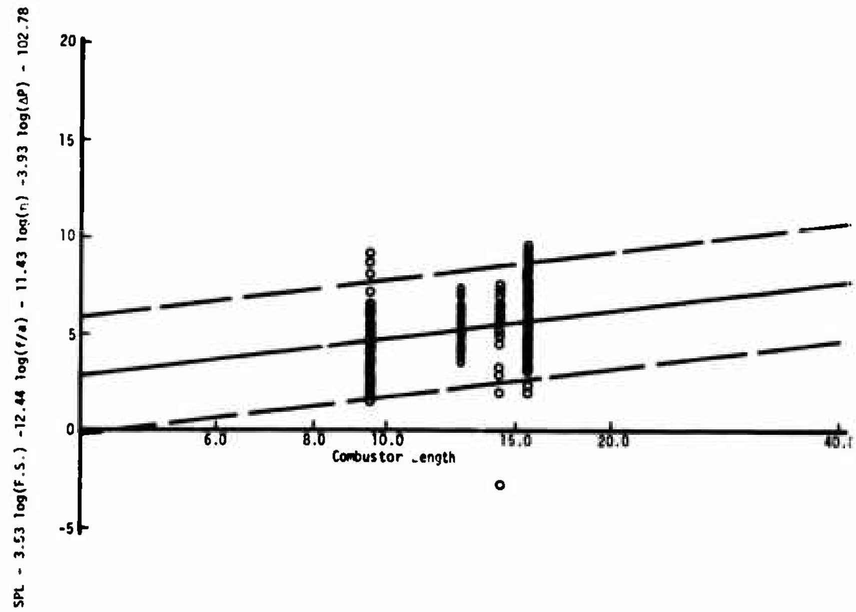
$$\text{and } - 1.71 \log (\text{Equiv. Ratio}) = 1.71 \log (f/a)_{stoi} + 1.71 \log (\text{flow split}) - 1.71 \log (f/a) \quad (4)$$

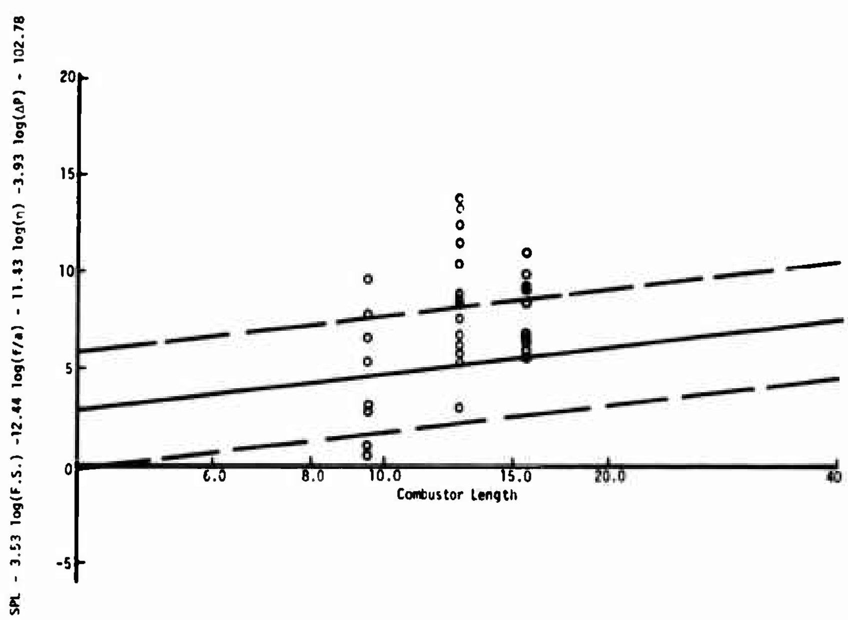
$$(f/a)_{stoi} = .0625 \quad (5)$$

$$\text{Then } SPL_2 = 11.27 \log (f/a) + 4.64 \log (L_T) + 1.71 \log(\text{flow split}) + 4.02 \log (\Delta P/P) + 102.89 \quad (6)$$

The resulting Equation 6 is nearly identical to Equation 2, which was evaluated with the exception that the efficiency term is eliminated. Equation 6 should now replace Equation 2 as the noise model.

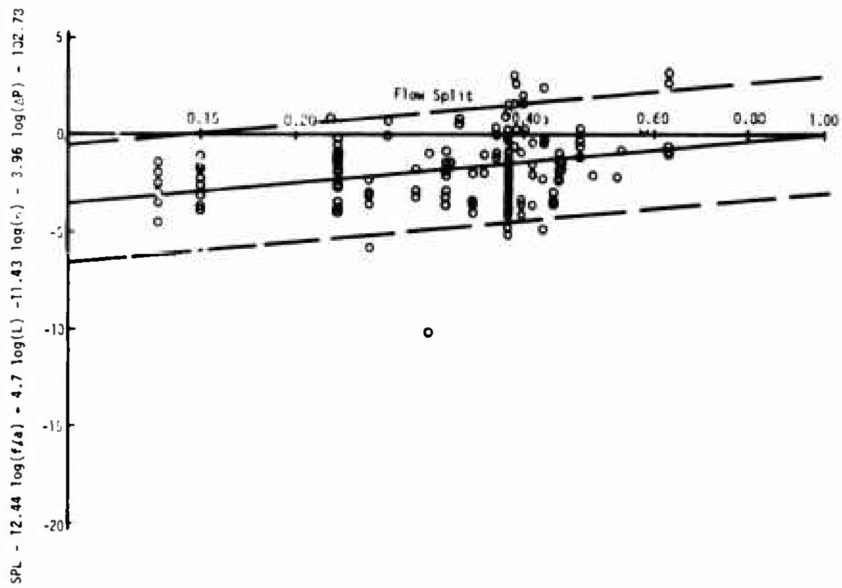
In all cases, the evaluation data does not collapse well when normalized. A regression analysis was performed on



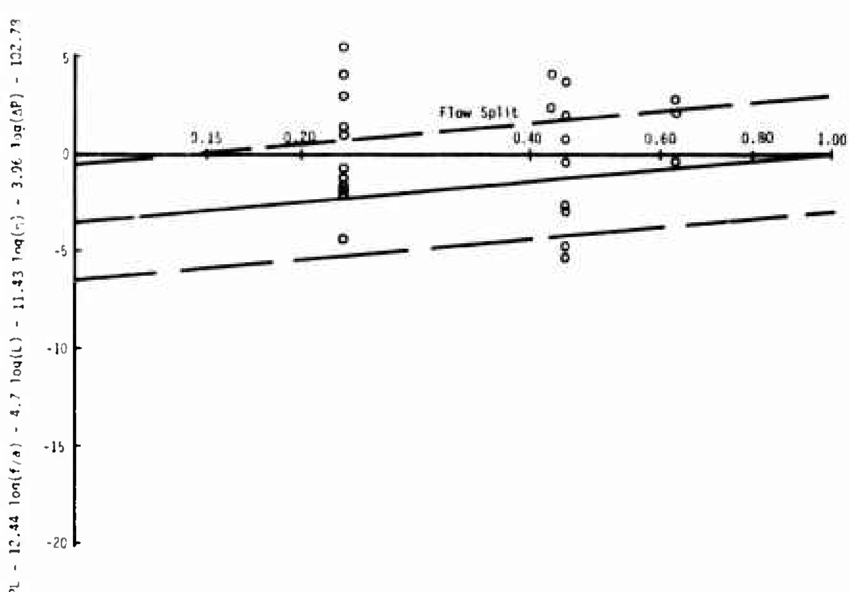


b) Evaluation Data Set

Figure 12. Microphone 2, Combustor Length Normalization.

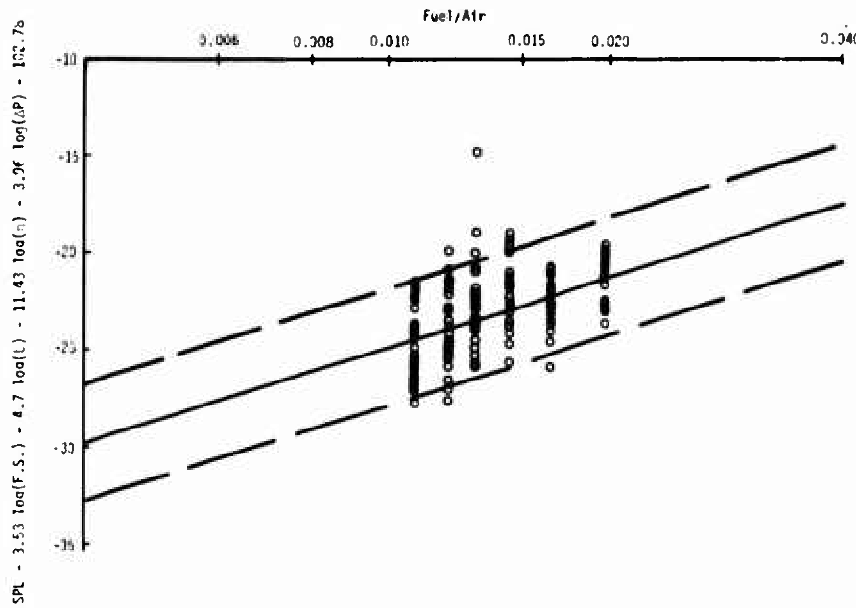


a) Correlation Data Set

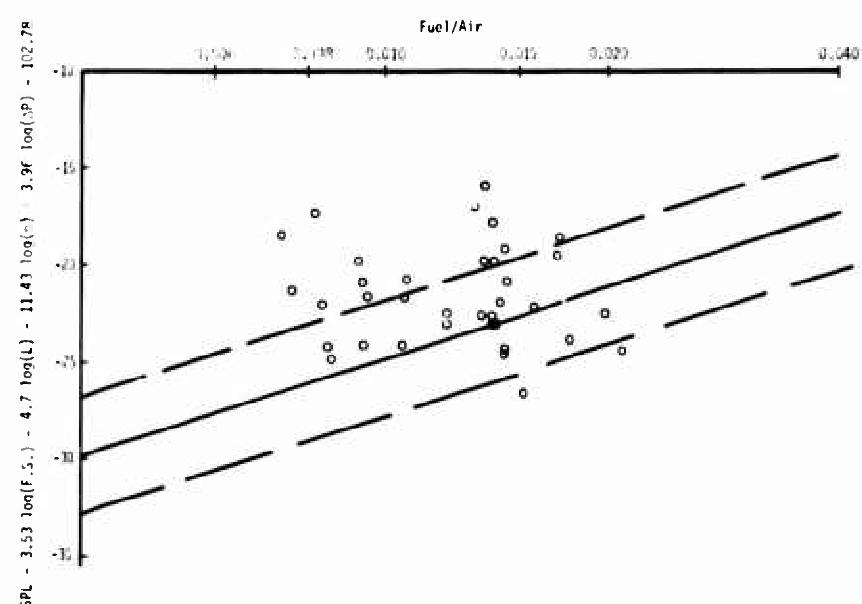


b) Evaluation Data Set

Figure 13. Microphone 2, Flow Split Normalization.

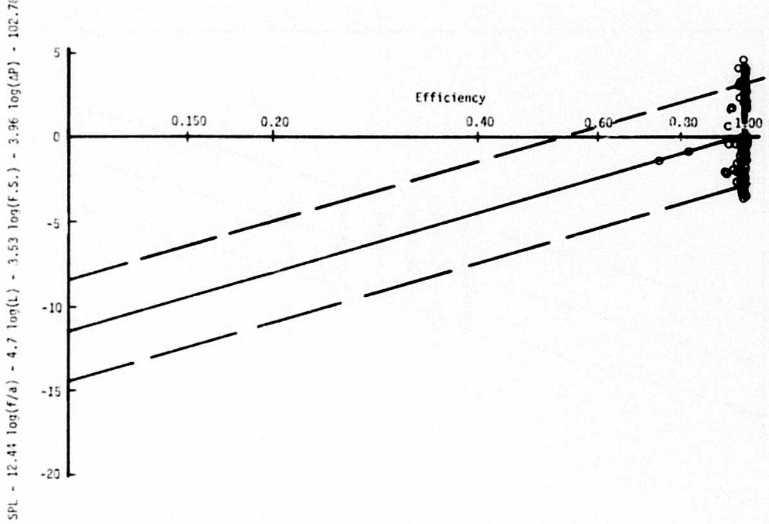


a) Correlation Data Set

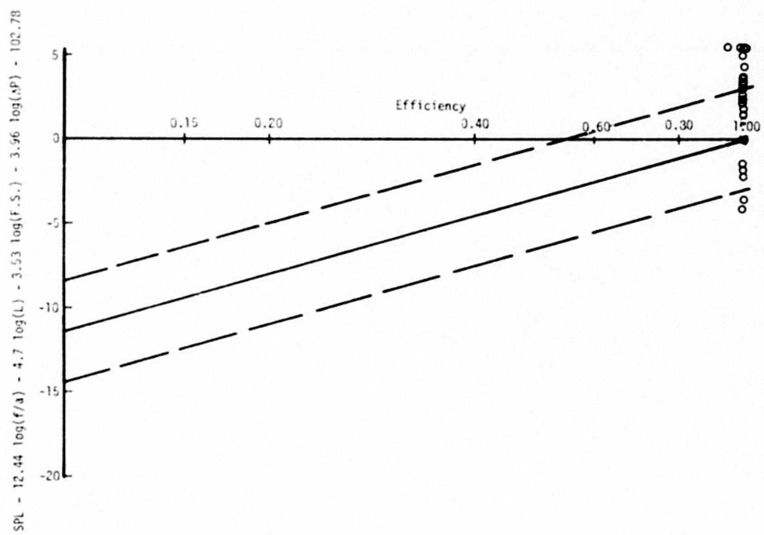


b) Evaluation Data Set

Figure 14. Microphone 2, Fuel/Air Normalization.



a) Correlation Data Set



b) Evaluation Data Set

Figure 15. Microphone 2, Efficiency Normalization.

this data to see what parameters control the evaluation data trends. This was done in a manner similar to the noise-emission correlation, that is, by examining the parameters collectively and individually (runs 28-36, Table 6). The results are shown in Table 11. Also shown in the table for easy comparison is the result for the correlation data, run 27.

TABLE 11. NOISE-PERFORMANCE CORRELATION COEFFICIENTS

RUN NO.	DEPENDENT PARAMETER	INDEPENDENT PARAMETERS					
		f/a	L_T	EQUIV. RATIO	ΔP/P	PATTERN FACTOR	K
27	Mic.2-Corr.Data	12.98	4.64	-1.71	4.02		104.9
28	Mic.2-Eval.Data	-2.91	14.19				58.8
29	"	-5.99					68.5
30	"						79.9
31	"		15.68				62.7
32	"						79.9
33	"			-1.58			79.5
34	"						79.9
35	"						79.9
36	"					2.08	81.0

It is obvious from the above results that the evaluation data correlates only with f/a and L_T, with the sign on the f/a term being opposite that for the f/a term in the equation for the correlation data. For most analyses presented above, the simple equation

$$SPL_2 = K \qquad (7)$$

where K = 79.9 dB, the average SPL for the data set is sufficient to provide a good data correlation for the

evaluation data. The resulting conclusion is that, with the exception of length, none of the performance parameters used in this study are able to tie the two data groups together. Although derived from the same series of combustor tests, the two groups of data tend to exhibit distinctive noise-performance trends.

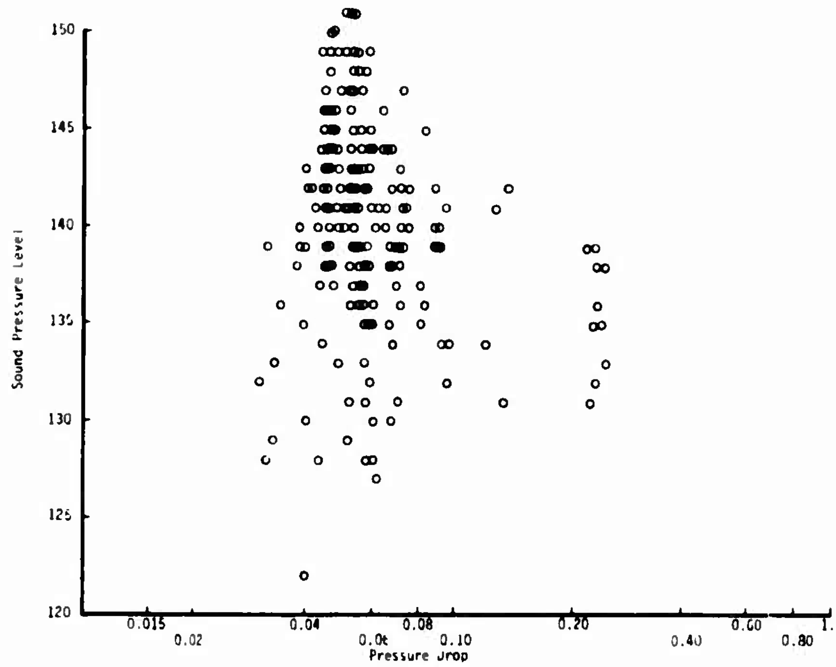
The data as measured inside the duct with microphone 4 does not exhibit any tendency to collapse with any correlation model. The model that OSBB38 generated is:

$$SPL = 41.59 \log (f/a) + 7.95 \log (V_D) - 110.28 \log (\eta)$$

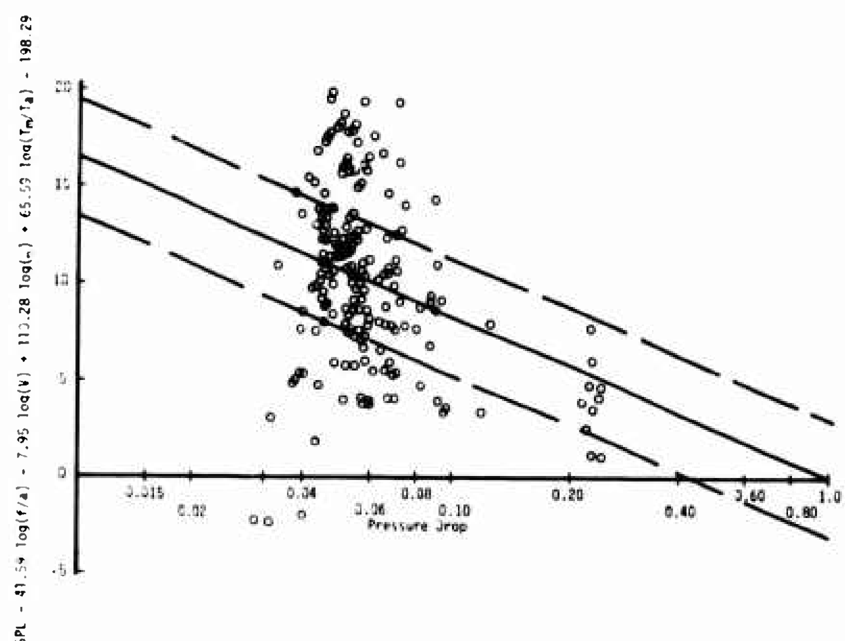
$$- 8.23 \log (\Delta P/P) - 65.59 \log (T_m/T_a) + 198.29 \quad (8)$$

Plotting the raw data versus pressure drop, Figure 16 shows a large data spread, approximately 25 dB. Normalization of this data versus pressure drop produced no real appreciable data collapse (Figure 16b). This indicates that none of the available parameters carries enough weight to provide a conclusive correlation. The same conclusion holds true when this model is applied to the evaluation data, Figure 17.

During the analysis of the combustor data, certain facts became apparent. One of the more important realizations was that regrouping the data had the effect of changing the correlation. To achieve meaningful results from any regression analysis, one of the variables should not be data organization. Therefore, it must be concluded that either the spread of the SPL data was insufficient to provide any correlation, or the measured performance parameters were not the ones needed to provide correlation. Even though Equation 2 was generated and evaluated and shown to collapse the correlation data

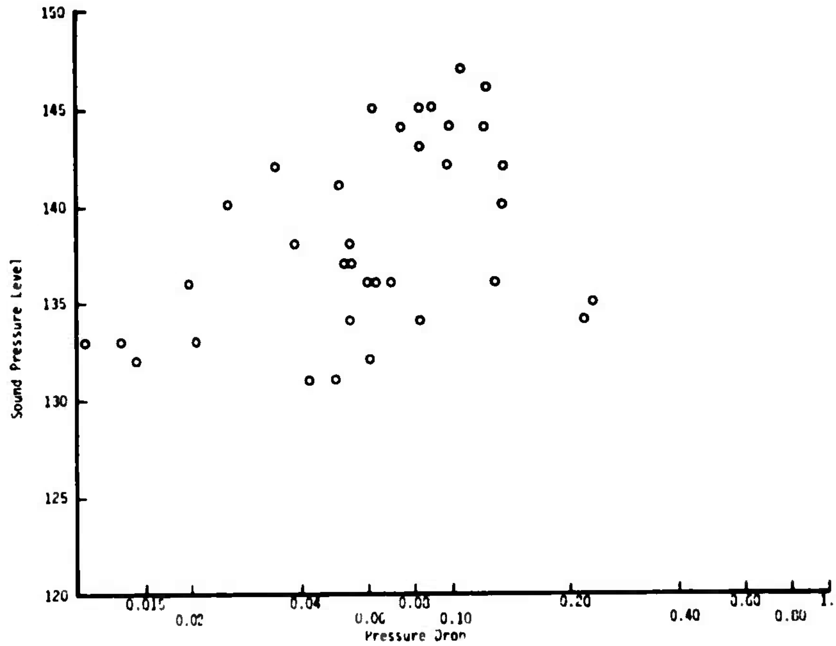


a) Raw Correlation Data Set

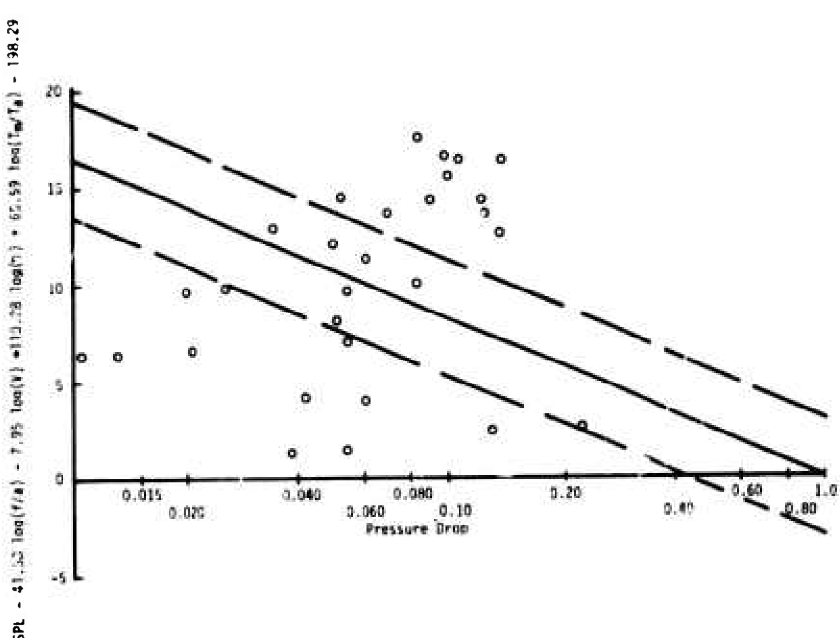


b) Normalized Correlation Data Set

Figure 16. Microphone 4, Pressure Drop Normalization of Correlation Data.



a) Raw Evaluation Data Set



b) Normalized Evaluation Data Set

Figure 17. Microphone 4, Pressure Drop Normalization of Evaluation Data.

fairly well (as it should), the confidence factor that must be assigned to this equation (and likewise Equation 6) must be considered small since it failed to collapse the evaluation data.

EFFECT OF FUEL INJECTION MODE ON NOISE AND EMISSIONS

For the preceding study of burner noise as related to design and performance, the range of mass emissions was approximately 2:1 for the large number of geometric variations tested. Also, the changes in noise level were not very great, as has been shown. Since the primary zone of the combustor is the major region of combustion activity, and thus combustion noise, changes in burning in this region should have an effect on noise. In order to achieve a larger variation of noise and emissions, the primary zone combustion was varied within a fixed burner geometry (similar to the Rich Premix/Swirl design, configuration 37) by variation of the fuel injection method. Two fuel modes were tested: pressure atomized (droplet) and wall film (vapor).

Experimental Procedure

Burner rig tests, similar to those described earlier for the 59 T63-type configurations, were conducted with a combustor designated Concept XVII Mod 0, which is similar to the Rich Premix/Swirl #9 design. Two fuel injection modes were employed: air assist atomizer and wall fuel film. Noise data was recorded by a test cell microphone as well as a probe microphone in the burner air inlet passage. The burner rig and microphones are shown in Figures 18 and 19. All data recording instrumentation was the same as for the T63 burner tests. Five operating points were tested for each fuel mode, as shown in Table 12.

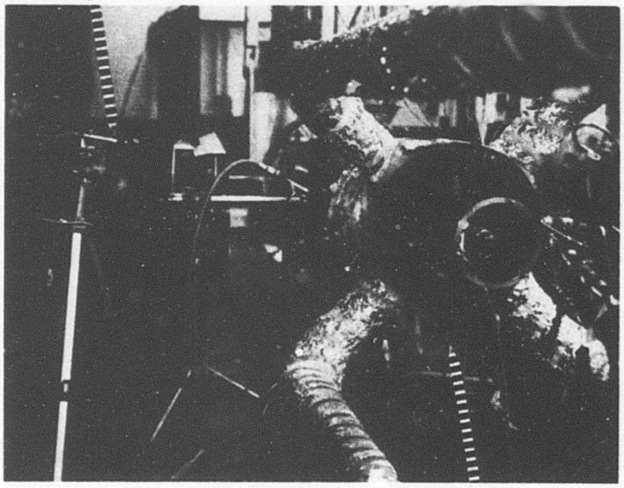


Figure 18. Test Cell Arrangement for Noise and Emission Tests of Concept XVII Mod 0 Burner.

TABLE 12. BURNER OPERATING POINTS

CYCLE POINT POWER SETTING, %	3 50	5 60	7 70	9 80	10 85
Airflow, lb/s	0.85	1.11	1.43	1.75	1.89
Burner Inlet Pressure, psia	22.4	26.8	33.5	41.7	46.3
Overall Fuel-Air Ratio	.0043	.0050	.0063	.0080	.0091
Burner Inlet Temperature, °F	1030	1068	1100	1100	1100
Burner Outlet Temperature, °F	1290	1385	1486	1586	1646

The burner was operated over a range of dilution zone variable geometry settings for each fuel mode. Forty-nine runs were made, resulting in 12 pairs of runs at identical variable geometry settings for both fuel modes.

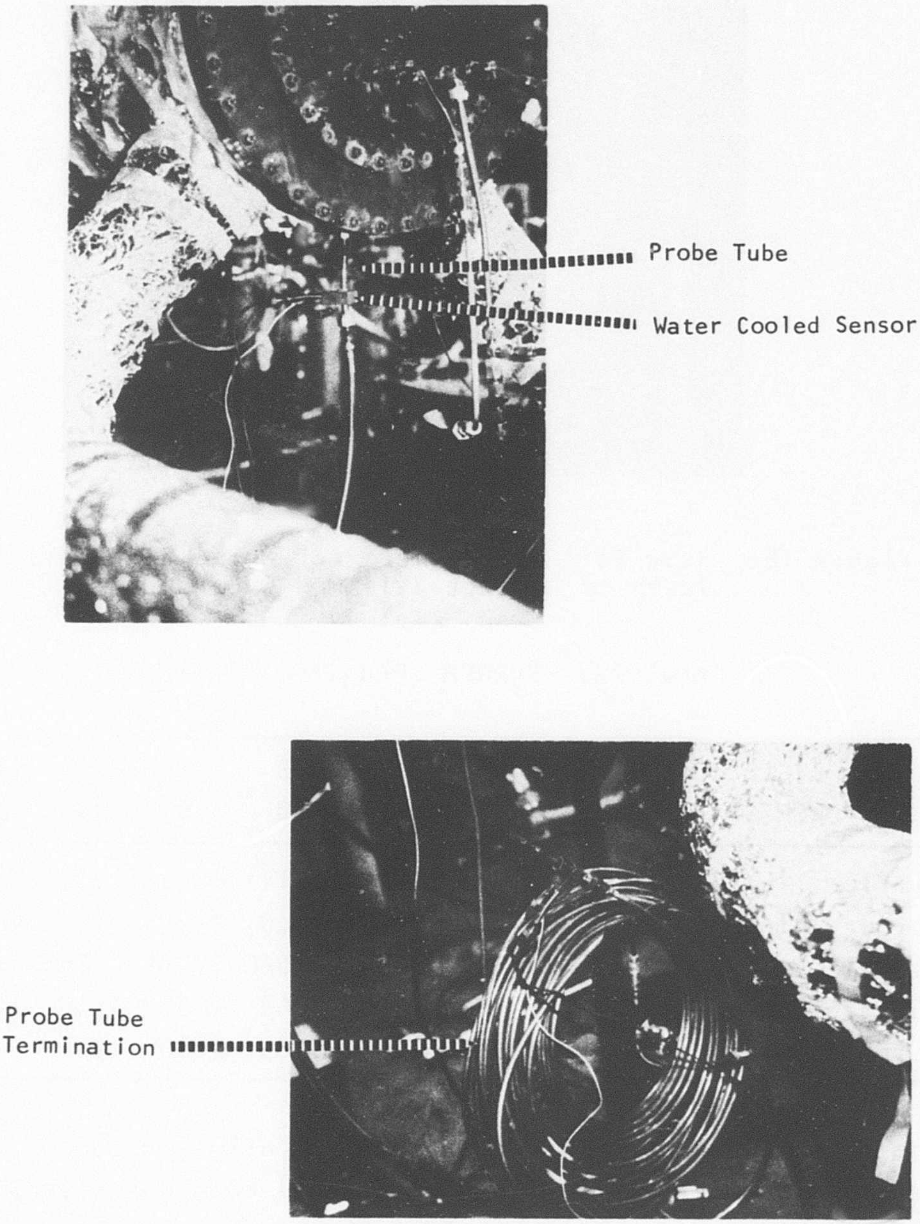


Figure 19. Inlet Probe Microphone.

In addition, several runs were made burning fuel from liquefaction of Utah coal by the COED (Char Oil Energy Development) process[12] which is underwritten by the Institute of Coal, Bureau of Mines. The two alternate fuels tested were designated:

a) Utah Light - a light fraction (approximately 20% of the total liquefaction)

b) 20/80 Utah Crude Mixture - the total crude oil from coal by the COED process

These alternate fuel tests were conducted for the purpose of further modifying the primary zone combustion process and observing the influence on noise.

Fuel Mode Test Results

This burner rig installation was somewhat different from that employed in the T63 combustor test series. The burner configuration was significantly different from a noise measurement standpoint. A heavy case enclosed the burner, so that the case transfer function was quite different from the T63, thus influencing the noise levels measured by the test cell microphone. Also the burner air inlet ducting scheme was not the same as for the T63, influencing the inlet probe microphone levels. For these reasons, the fuel mode noise data cannot be compared with the T63 burner data, but must be considered as a separate data set.

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[12] Strom, A. H., and Eddinger, R. T., COED PLANT FOR COAL CONVERSION, Chemical Engineering Progress, Vol. 67, No. 3, March 1971, pp. 75-80.

Noise data was analyzed in one-third octave frequency bands and is presented in Appendix II. Examination of the noise data for the test cell microphone shows that the noise level measured remained approximately constant throughout the test, indicating that combustion noise was attenuated greatly through the burner case, and/or this was a quiet burner. The room microphone levels measured appear to be due to other noise sources in the test facility. For these reasons, the inlet probe microphone data was examined for noise-emission trends. The measured mass emissions are presented in Table 13.

By comparison of noise spectra with and without burning (Figure 20), the combustion noise for this larger volume burner was determined to be in the frequency range of 50 to 160 Hz. A wide range of emissions was achieved, as expected, between wall film and droplet combustion (Table 13). For fixed geometry and power setting, fuel mode change altered NO_x by a factor of 8:1 to as much as 50:1. Variations in CO were not as great. Noise and emissions relationships for both fuel modes are shown in Figure 21 for NO_x and Figure 22 for CO. There does not appear to be a significant change in noise level with fuel mode except at low power settings, as shown in Figure 23. The fuel atomization achieved with the air assist injector was estimated to be very fine (less than 60 microns), and invariant over the entire operating range. Although a wide range of emissions was achieved, it appears that the droplet size was so fine that little noise change was accomplished, comparing the two fuel modes. Furthermore, it appears that the background noise level (from test facility sources other than combustion) was a limiting factor in the measurement of low level combustion noise. This "noise floor", as determined by the

TABLE 13. FUEL MODE TEST DATA SUMMARY

a) Standard Fuel (EMS 66B)

Reading No.	Fuel Mode	Power Setting Cycle Pt.	%	Dilution Zone Variable Geom. (inches closed)	Mic. #2 Relative SPL, dB	Mass Emissions, ppm CO	NO_x
2114	No Fuel Baseline	3	50	.40	0	0	0
40		7	70	.60	4	0	0
44		9	80	.80	5	0	0
01		10	85	.70	6	0	0
2115	Wall Film	3	50	.40	4	7.77	6.10
16		3	50	.45	3	5.97	3.56
17		3	50	.50	2	5.97	3.05
18		3	50	.55	2	10.05	2.55
19		3	50	.60	2	20.10	1.53
21	Air Assist Atomizer	3	50	.40	6	18.14	25.81
22		3	50	.50	6	19.12	23.82
23		3	50	.60	6	25.10	21.29
24		3	50	.70	6	65.18	18.75
25		3	50	.80	6	116.15	17.48
26		3	50	.90	6	214.13	13.81
2127	Wall Film	5	60	.40	3	11.45	14.46
28		5	60	.60	2	7.77	2.86
29		5	60	.70	3	11.45	1.33
30		5	60	.75	3	18.14	1.03
31		5	60	.80	3	42.78	0.72
32	Air Assist Atomizer	5	60	.80	4	49.18	23.87
33		5	50	.40	5	25.10	42.09
34		5	60	.95	4	123.71	18.52
2135	Wall Film	7	70	.60	5	9.59	15.25
36		7	70	.70	4	8.68	5.71
37		7	70	.80	3	12.38	2.56
38		7	70	.90	4	26.11	1.13
39		7	70	.95	4	59.86	0.53
41	Air Assist Atomizer	7	70	.60	7	26.11	54.53
42		7	70	.95	7	57.73	26.88
43		7	70	1.05	4	95.39	24.92
2145	Wall Film	9	80	.80	7	12.85	12.75
46		9	80	.90	7	13.33	5.59
47		9	80	1.00	8	21.59	2.26
48		9	80	1.10	8	51.31	0.91
49	Air Assist Atomizer	9	80	.80	9	19.12	64.73
50		9	80	1.00	8	30.20	43.30
51		9	80	1.20	7	86.76	35.87
2102	Wall Film	10	85	0.95	9	18.14	9.97
3		10	85	1.00	9	18.14	6.05
4		10	85	1.05	9	17.17	4.52
5		10	85	1.10	11	23.09	3.08
6		10	85	1.15	11	27.13	2.47
7		10	85	1.20	11	38.55	2.06
8		10	85	1.25	12	63.06	1.24
9	Air Assist Atomizer	10	85	0.95	11	16.20	53.87
10		10	85	1.10	11	28.15	48.88
11		10	85	1.25	10	58.79	40.92
12		10	85	1.40	9	116.15	34.98

b) Alternate Fuels (Coal Derivative)

Reading No.	Fuel Mode	Power Setting Cycle Pt.	%	Dilution Zone Variable Geom. (inches closed)	Mic. #2 Relative SPL, dB	Mass Emissions, ppm CO	NO_x
2152	Wall Film	7	70	.70	4	11.91	41.71
53		7	70	.85	4	31.24	33.32
54		7	70	.95	4	123.71	31.84
2161	Air Assist Atomizer	7	70	.70	6	34.36	55.51
63		7	70	.95	7	66.24	49.59
64		7	70	.60	8	27.13	63.48
68		7	70	.70	5	28.15	59.48

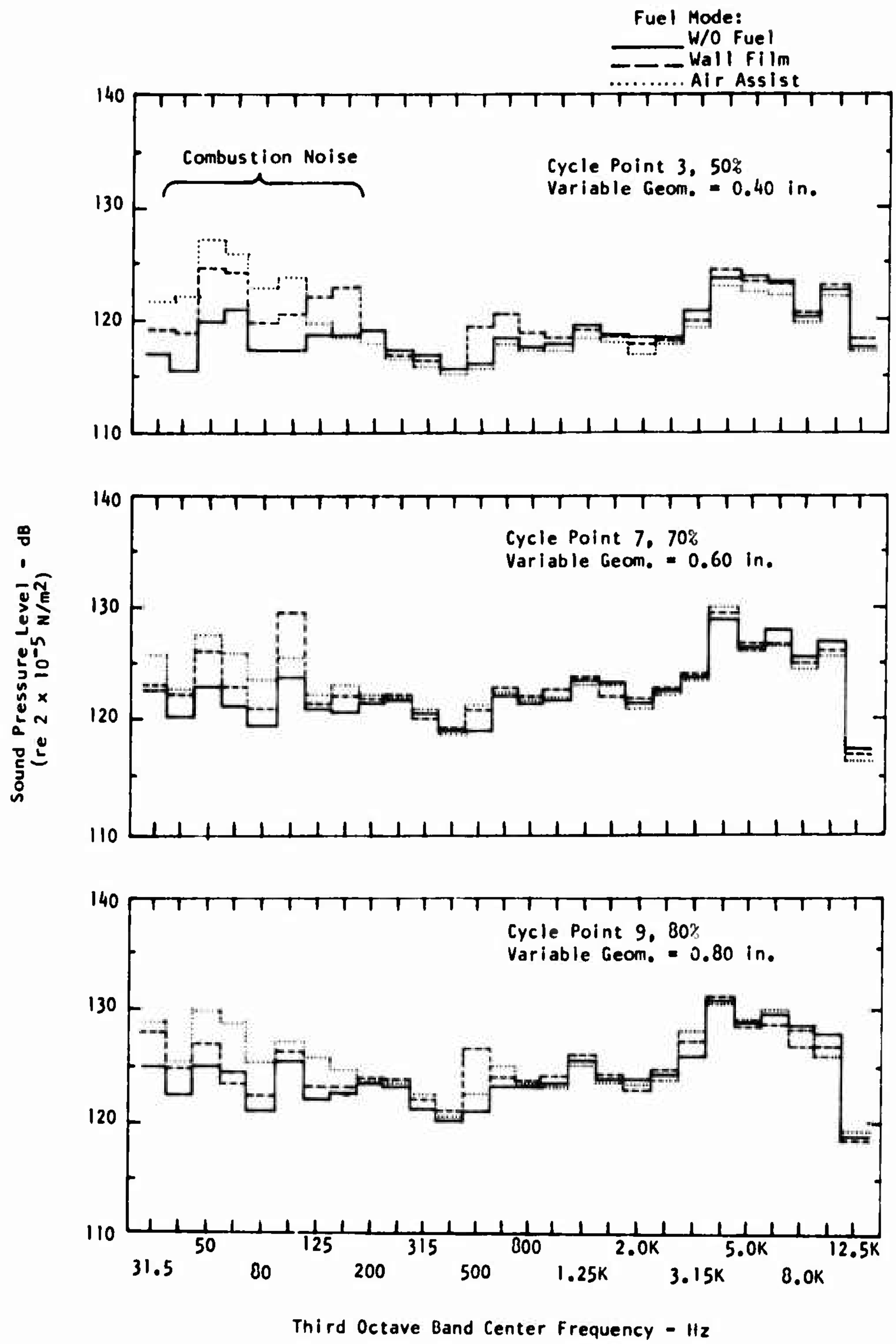

Figure 20. Effect of Fuel Mode on Noise Spectra.

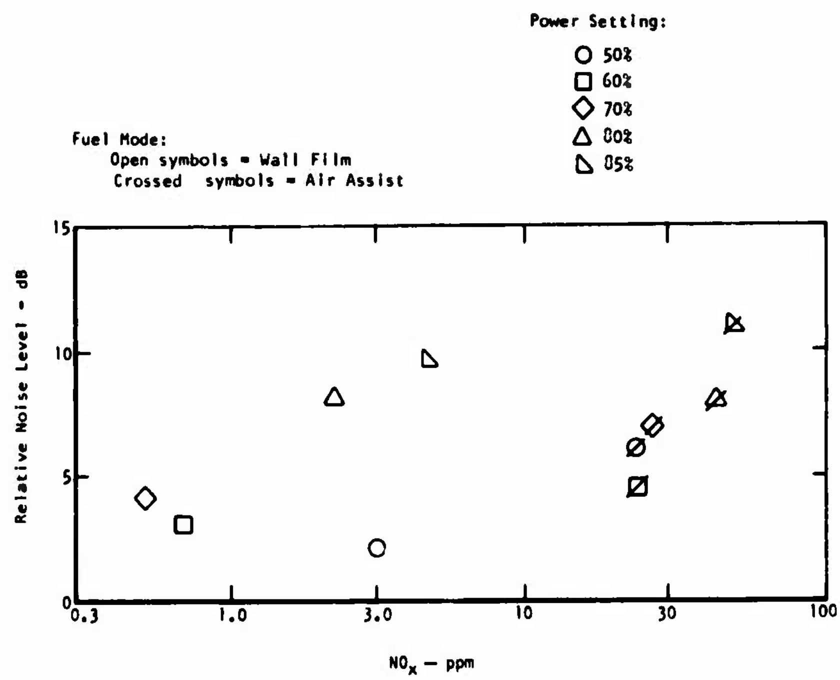

Figure 21. Noise and NO_x Emissions for Two Fuel Modes.

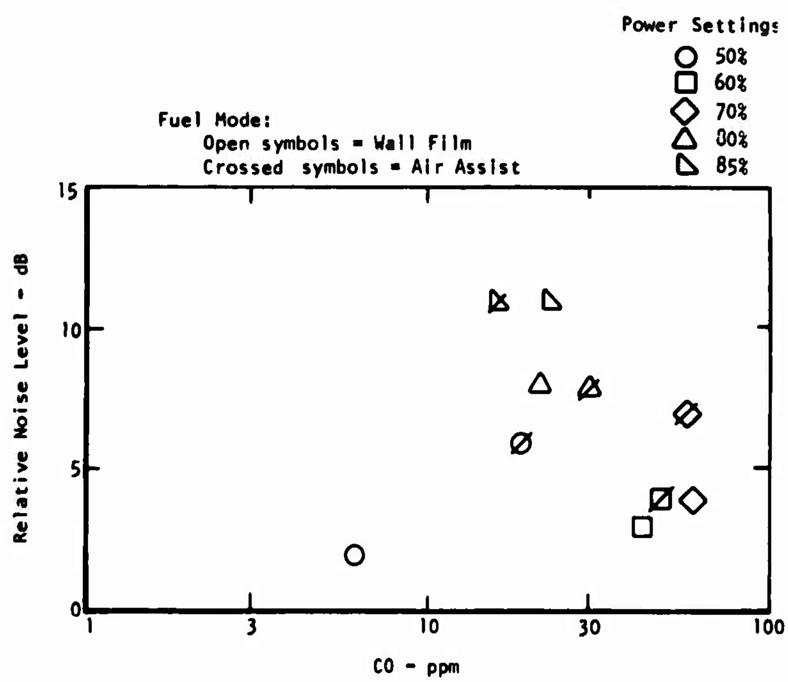

Figure 22. Noise and CO Emissions for Two Fuel Modes.

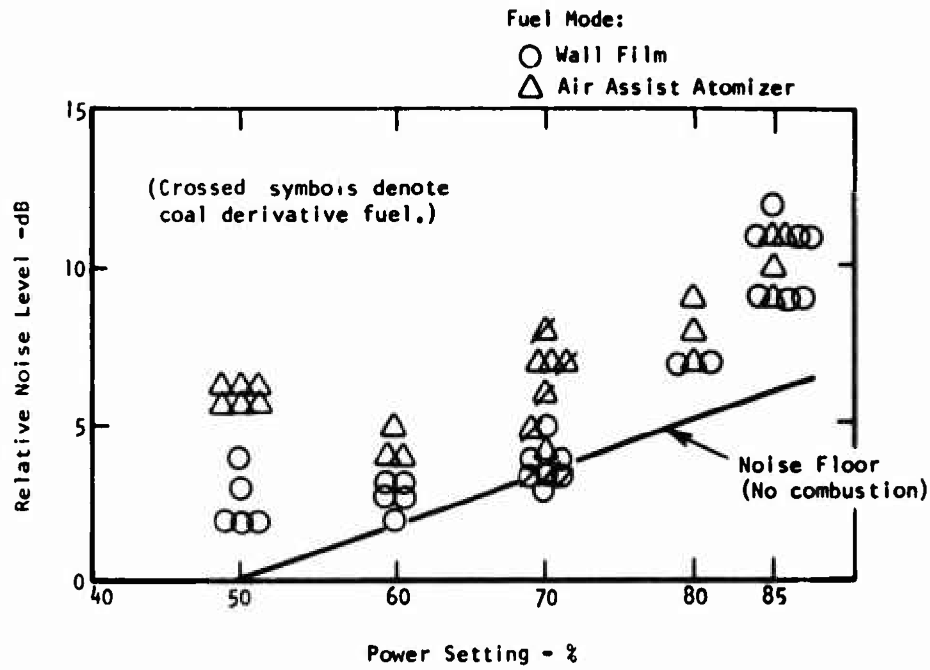

Figure 23. Effect of Power Setting on Combustion Noise.

runs without burning, may have had a limiting effect on the range of noise levels measured.

Noise levels were measured utilizing the coal derivative alternate fuels for both fuel modes at cycle point 7 (Table 13). The limited data obtained is included in Figure 23, and shows no difference between fuel types.

ENGINE TEST OF A LOW-EMISSION COMBUSTOR

The Rich Premix/Swirl combustor (configuration 37) had been identified as a practical low-emission T63 combustor during the performance of a U. S. Army-sponsored low-emission combustor program[1]. Under this combustion noise research program, this burner was tested in an engine environment for the purpose of determining its acoustical performance[13]. Tests were conducted using a Model 250-C18 Series I engine as the test vehicle. Engine noise measurements were made for both the conventional and Rich Premix/Swirl combustors. Because the engine configuration remained the same except for the combustor, the data provided the direct noise reduction associated with the Rich Premix/Swirl combustor design. Since the modified combustor had demonstrated very low exhaust emissions when tested in the burner rig under the U. S. Army emissions contract, gas measurements were taken to obtain emissions data in an engine environment. The emission measurements also were made with the conventional production combustor for comparative purposes.

Engine Test

A 250-C18 Series I engine was used as the test vehicle in this program. Engine installation, instrumentation, and monitoring conformed to standard practice for T63 engine test. An 8-channel high-speed recorder was used during most of the testing to record engine responses of gas producer

[13] Semrau, W. R., and Troth, D. L., NOISE AND EMISSIONS TEST OF A RICH PRECHAMBER, SWIRL DOME, EXTENDED LENGTH COMBUSTOR LINER IN A MODEL 250 ENGINE ENVIRONMENT, Research Note RN 74-10, Detroit Diesel Allison Division, GMC, February 1974.

RPM, power turbine RPM, turbine outlet temperature, fuel flow, compressor discharge pressure, and torquemeter output.

Testing was performed at eight engine operating levels - 100%, 90%, 75%, 55%, 40%, 30%, 25%, and 10% of maximum continuous power. The automatic system used to control and monitor engine operation uses turbine outlet temperature (TOT) as the governing parameter. Therefore, the engine was stabilized at the TOT's corresponding to these operational levels. However, because this engine was a 10-year old "workhorse" with over 60 builds, the horsepower output did not meet the model specification. In fact, the variances were quite large, as noted in Table 14.

TABLE 14. OUTPUT HORSEPOWER VARIATION OF THE 250-C18 SERIES I ENGINE

Operating Level	Model Specification SHP*	Actual SHP*
100% Maximum Continuous	270	215
75% Maximum Continuous	203	151

*Corrected to standard sea level static conditions.

The engine airflow and fuel flow were also lower for this engine.

Rich Premix/Swirl Combustor

A T63-type combustor previously used in a U. S. Army-sponsored low-emission combustor program was selected for testing because of its low mass emissions performance measured during the emission testing in a rig facility. A photograph of the combustor is shown in Figure 24 and a schematic cross-section is seen in Figure 25. The combustor design and rig-

Figure 24. Rich Premix/Swirl Combustor.

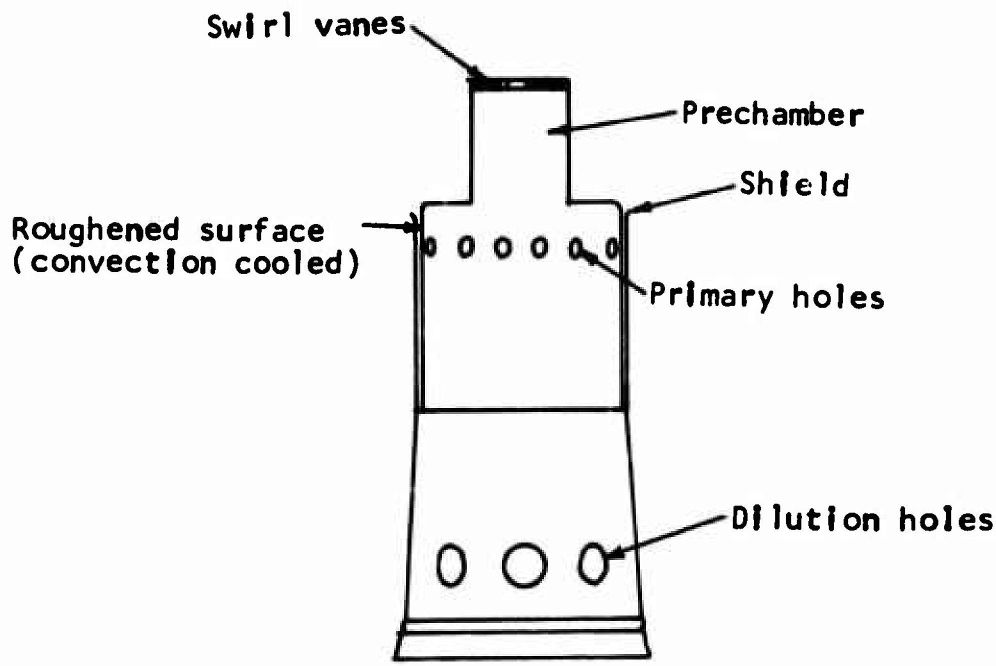

Figure 25. Schematic Cross Section of Rich Premix/Swirl Combustor.

test emissions performance are described in Reference 14.

The Rich Premix/Swirl combustor liner incorporated several features to reduce the exhaust emissions:

- A premix cup or prechamber was used to mix the fuel and air and partially vaporize and react the fuel.

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(14) Sherman, W. S., Williams, J. R., Verkamp, F. J., Verdouw, A. J., Troth, D. L., EMISSION PERFORMANCE OF T63 EXTENDED LENGTH-PREMIX CUP/LIQUID FUEL/SWIRL DOME COMBUSTOR LINER (DESIGN NO. 9), Research Note 72-40, Detroit Diesel Allison Division, GMC, May 1972.

- Fuel rich mixtures in the premix cup minimized any low temperature combustion zones, thus minimizing the CO and CH_x concentrations which could be quenched.

- Swirl-stabilized primary zone recirculation behind a sudden expansion provided an effective flame holder for primary zone combustion. The intensity of the swirl vortex effectively supplied heat to the incoming fuel air mixtures to improve combustion stability.

- Convection cooling of the primary zone instead of film cooling avoided the quenching of CO, CH_x, and carbon in the cold air film, thus allowing their oxidation to continue.

- Extending the combustor overall length 6.00 inches allowed more intermediate zone residence time for the consumption of CO, CH_x, and carbon. Reduction of these emissions was obtained for a moderate rise in NO_x emissions.

- Delayed dilution, moving the dilution holes closer to the liner exit, was also used to gain increased intermediate zone residence time.

To accommodate the engine installation, a 6-inch spacer was inserted between the combustion case and gas producer turbine support. Extended length air discharge tubes were also used. The standard fuel nozzle was used.

Noise Measurement and Analysis

T63 engine noise measurements were made for both the baseline and Rich Premix/Swirl combustors. The purpose of these noise tests was to determine what influence the combustor has on the engine noise signature.

The noise measurements were made in an engine test cell shown in Figure 26. The test cell is reverberant — well suited for comparative measurements of sound power for the two burner configurations. Background noise levels from blowers and other test cell equipment were at least 20 dB below the engine levels, across the entire spectrum. The single microphone was located at engine centerline height, 2 feet to the side of the engine centerline, and in line with the burner dome, as shown in Figure 26.

Data were recorded for eight power settings for each combustor. The power settings were governed by turbine outlet temperature (TOT), where the 100% power setting corresponds to TOT equal to that required for maximum continuous power. (As noted previously, the actual horsepower output was somewhat lower than that expected, based on TOT.)

Acoustical instrumentation for data recording and analysis was:

Recording

Microphone, B & K ½" type 4134
Microphone preamplifier, Nagra FET follower type QSPB
Tape recorder, Nagra IV-SJ (7½ ips)

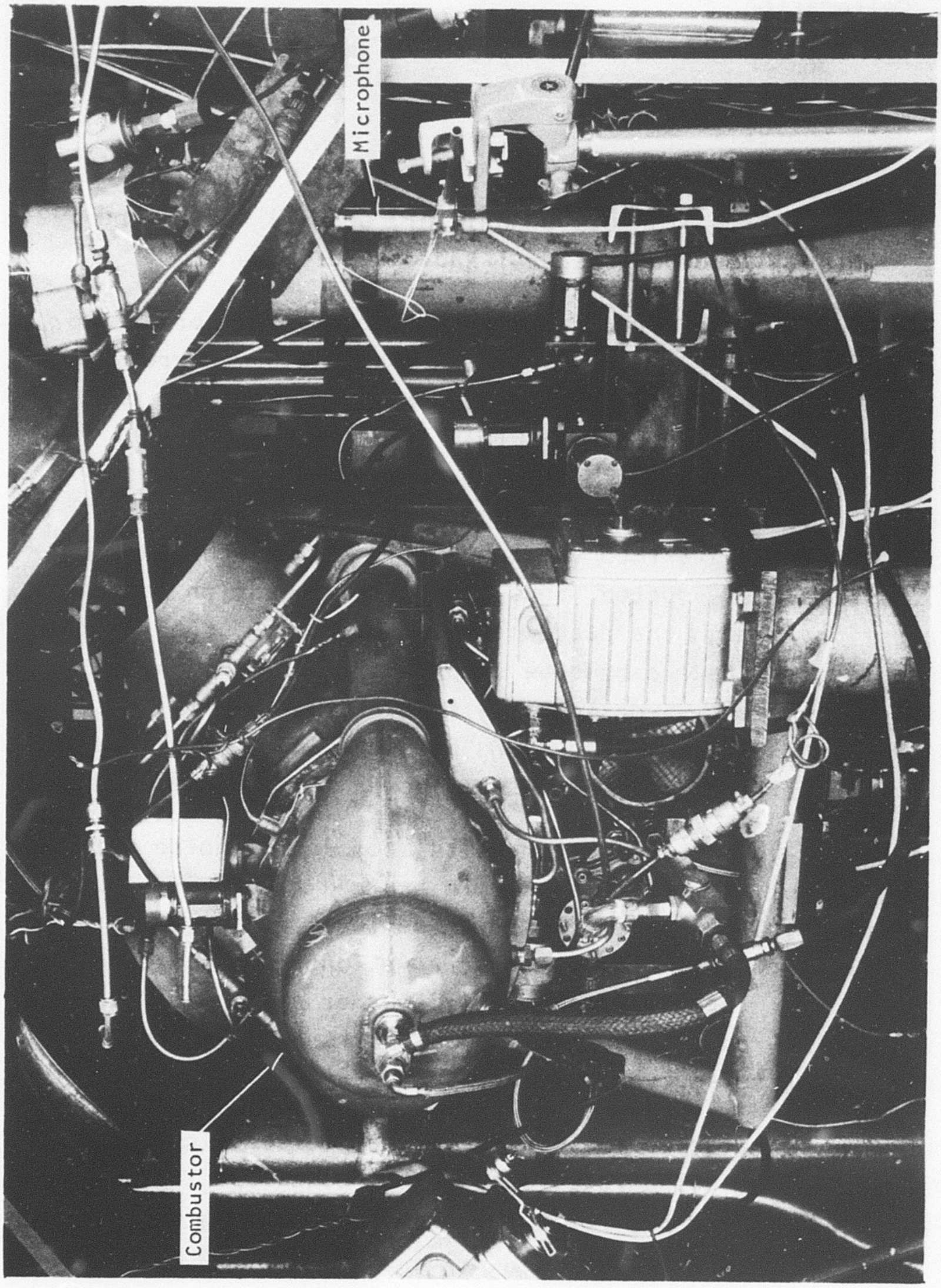

Figure 26. Engine Test Cell General Arrangement.

Calibration

Microphone calibrator, General Radio type 1562A

Data Analysis

Tape recorder, Nagra IV-SJ

Real Time 1/3 Octave Analyzer, General Radio type 1921

Level Recorder, General Radio type 1522

The engine noise data recorded for both burners is presented in Figures 27, 28, 29 and 30. The noise levels measured during engine testing are generally about 30 dB higher than noise levels measured on the burner rig. The much higher engine noise levels are the result of the exhaust ducts being open to the test cell, allowing noise from internal sources to propagate into the test cell, whereas the burner rig was completely ducted, thus providing combustion noise attenuation through the duct walls. Therefore, burner rig and engine test data cannot be compared. Also, the engine test cell volume was considerably smaller than the rig test cell, and thus the measured sound pressure levels would be higher, even if the generated sound power levels were equal.

Based on the burner rig test results, combustion noise for the T63 burner is known to occur in a broad frequency band at approximately 500 Hz. Engine noise level at 100% power setting is shown for both burners, as a function of frequency, in Figure 31. The Rich Premix/Swirl burner shows 3 dB combustion noise reduction. This reduction is quite broadband, extending out to several kilohertz.

Turbine noise was also influenced by the choice of combustors. Gasifier turbine noise is evident in the sound spectra (Figures 27 through 30) for both burners, occurring in the

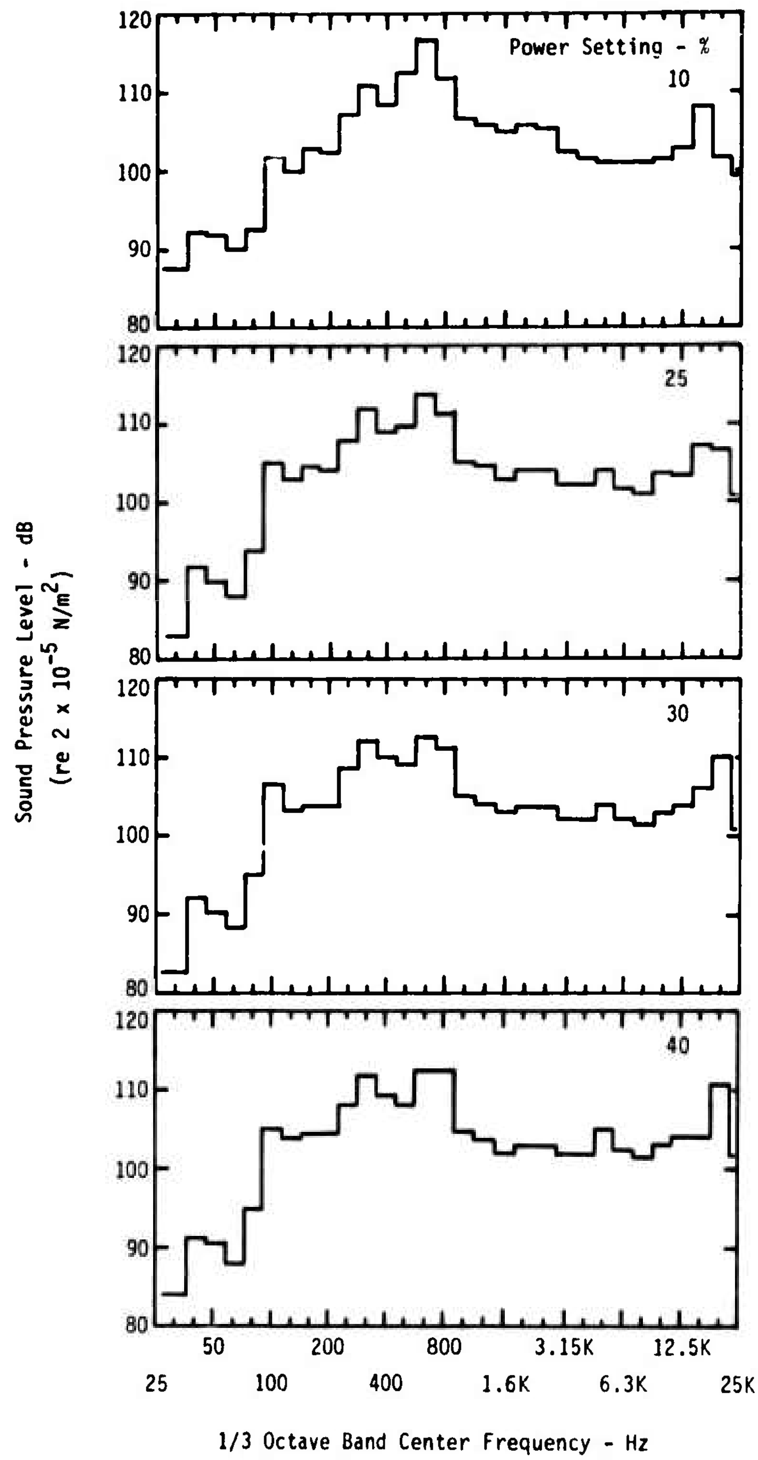

Figure 27. T63 Engine Sound Spectra - Standard Burner at 10, 25, 30, and 40% Power.

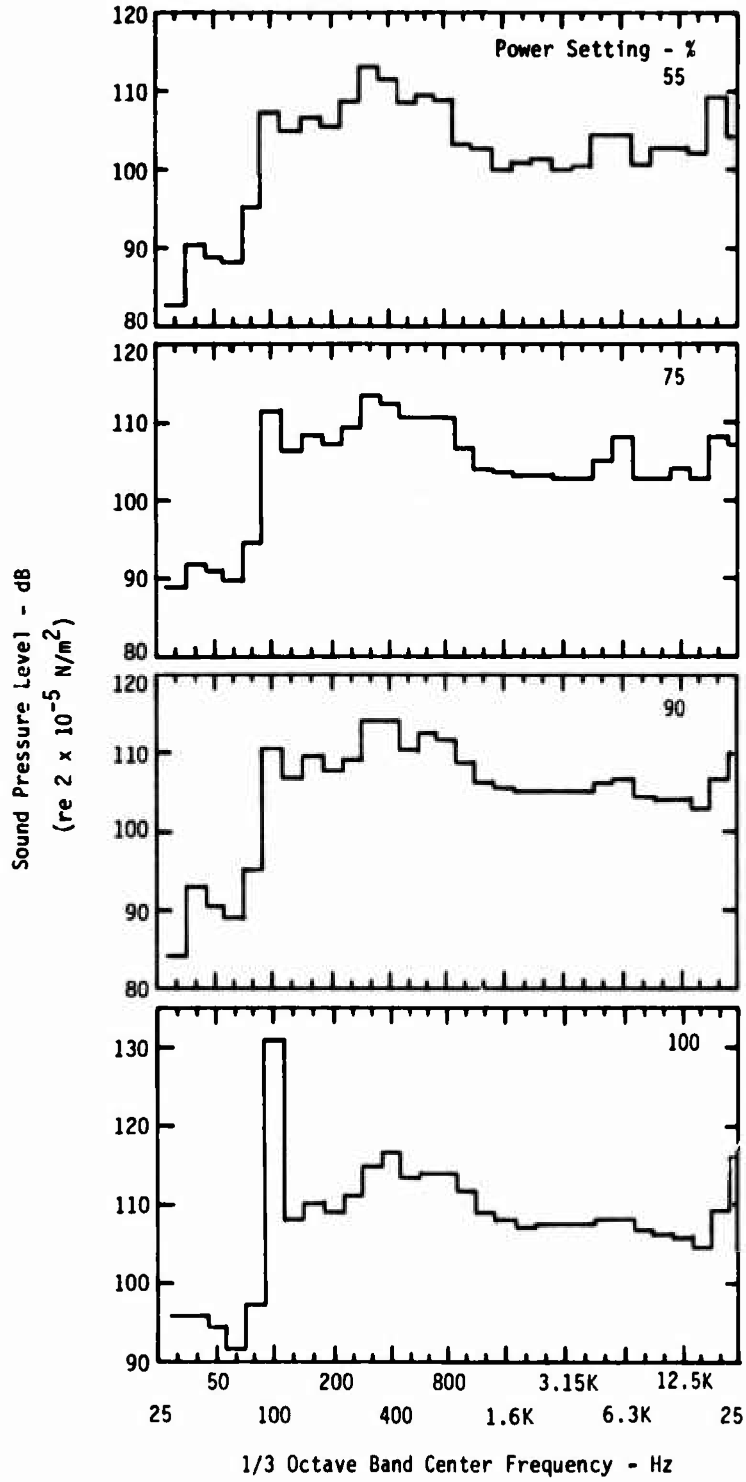

Figure 28. T63 Engine Sound Spectra - Standard Burner at 55, 75, 90, and 100% Power.

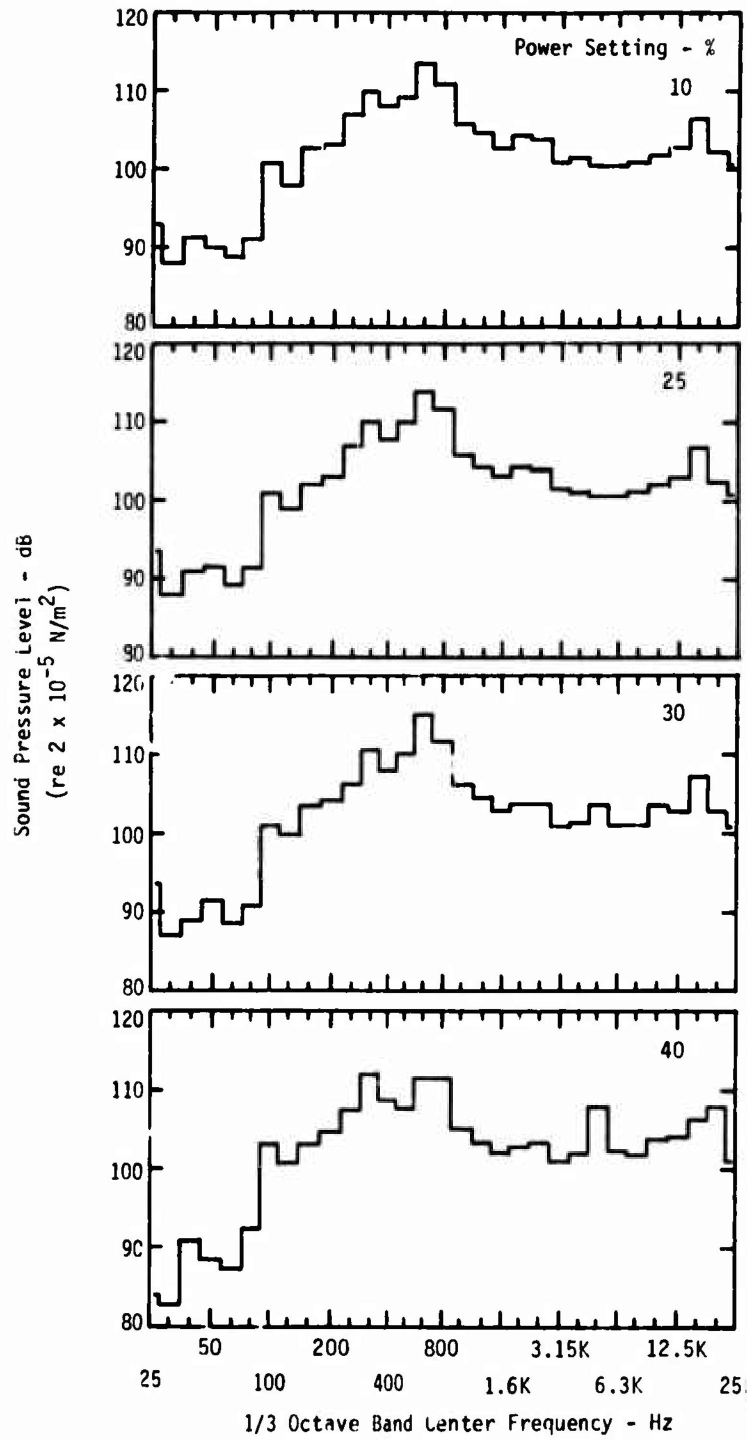

Figure 29. T63 Engine Sound Spectra - Rich Premix/ Swirl Burner at 10, 25, 30 and 40% Power.

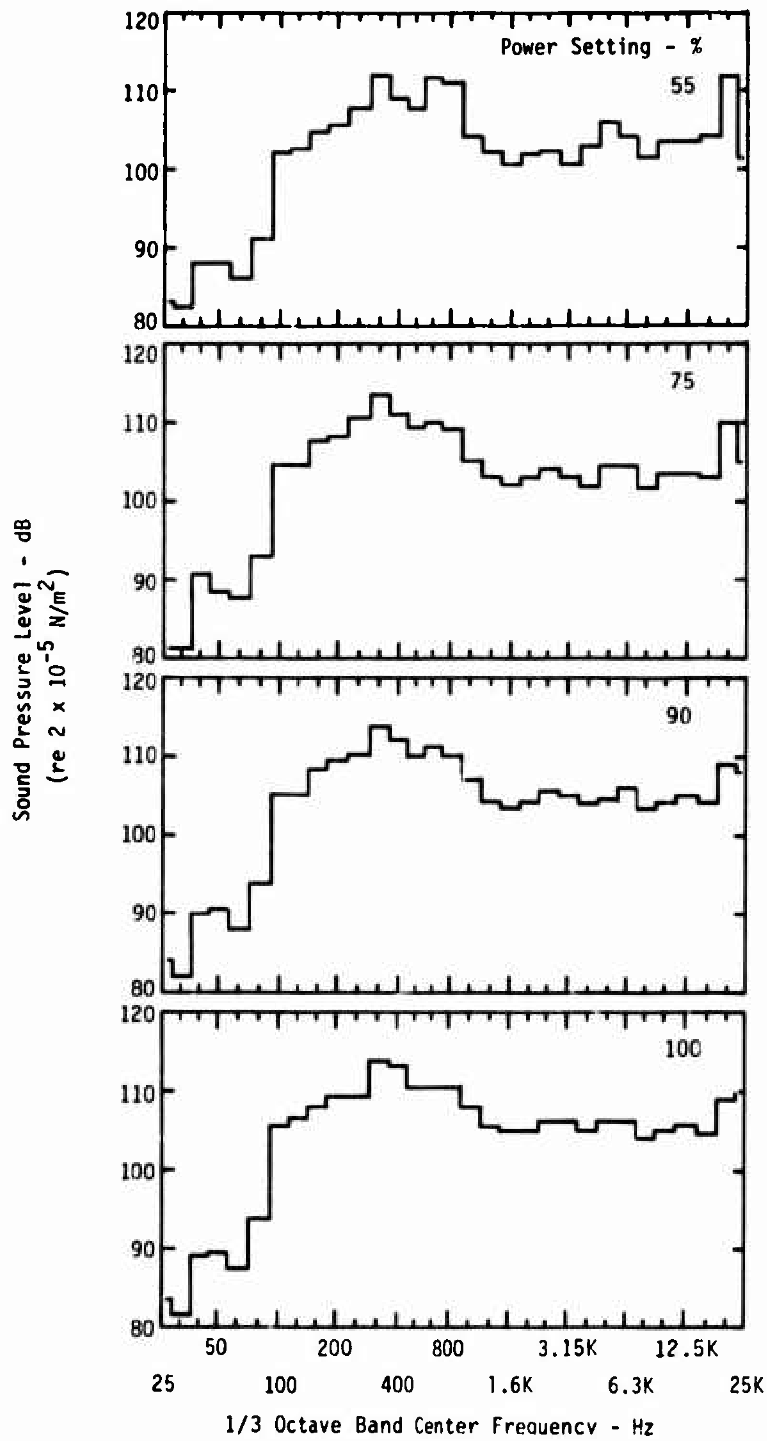

Figure 30. T63 Engine Sound Spectra - Rich Premix/Swirl Burner at 55, 75, 90 and 100% Power.

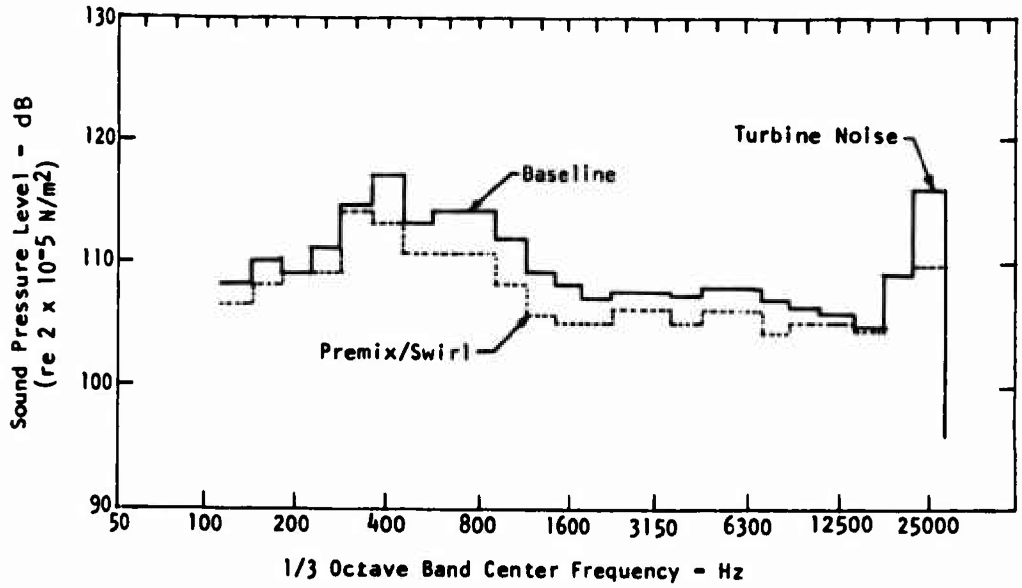

Figure 31. T63 Engine Noise Spectra at 100% Power Setting.

16 to 25 kHz frequency bands. This turbine noise frequency increases with power setting as gasifier turbine speed increases. Turbine noise level associated with both burners is also shown in Figure 31 at the 100% power setting in the 25 kHz frequency band. The Rich Premix/Swirl burner reduced the turbine noise by 5 dB. Apparently, the turbulence level and/or scale out of the burner was reduced (as well as the combustion noise) and therefore less turbine noise was generated.

Exhaust Emissions Testing

During the engine noise testing of the Rich Premix/Swirl combustor, exhaust emissions were also measured. This combustor liner had previously demonstrated significant reductions in exhaust emissions during rig tests, and therefore it was of interest to measure emissions as well as noise during operation in the 250 engine. For comparison, exhaust emissions were also measured when the engine was operated

with the standard production combustor. Based upon turbine exit temperature, the engine exhaust emissions were recorded at 10, 25, 30, 40, 55, 75, 90, and 100% power levels. The fuel injector used was the standard Model 250 dual orifice, pressure atomizing injector.

All of the engine emission test data is presented in Reference 13. An emissions comparison between the two combustors has been made, and is shown in Figures 32, 33, 34 and 35. Special note must be made that the emission data presented in this report are raw data as recorded from the test cells, with the engine operating at reduced power output, as previously discussed. The data has not been corrected to standard conditions. The emissions trends indicated by these data are the same as were observed on the combustor rig tests, but the magnitudes of the concentrations were somewhat different.

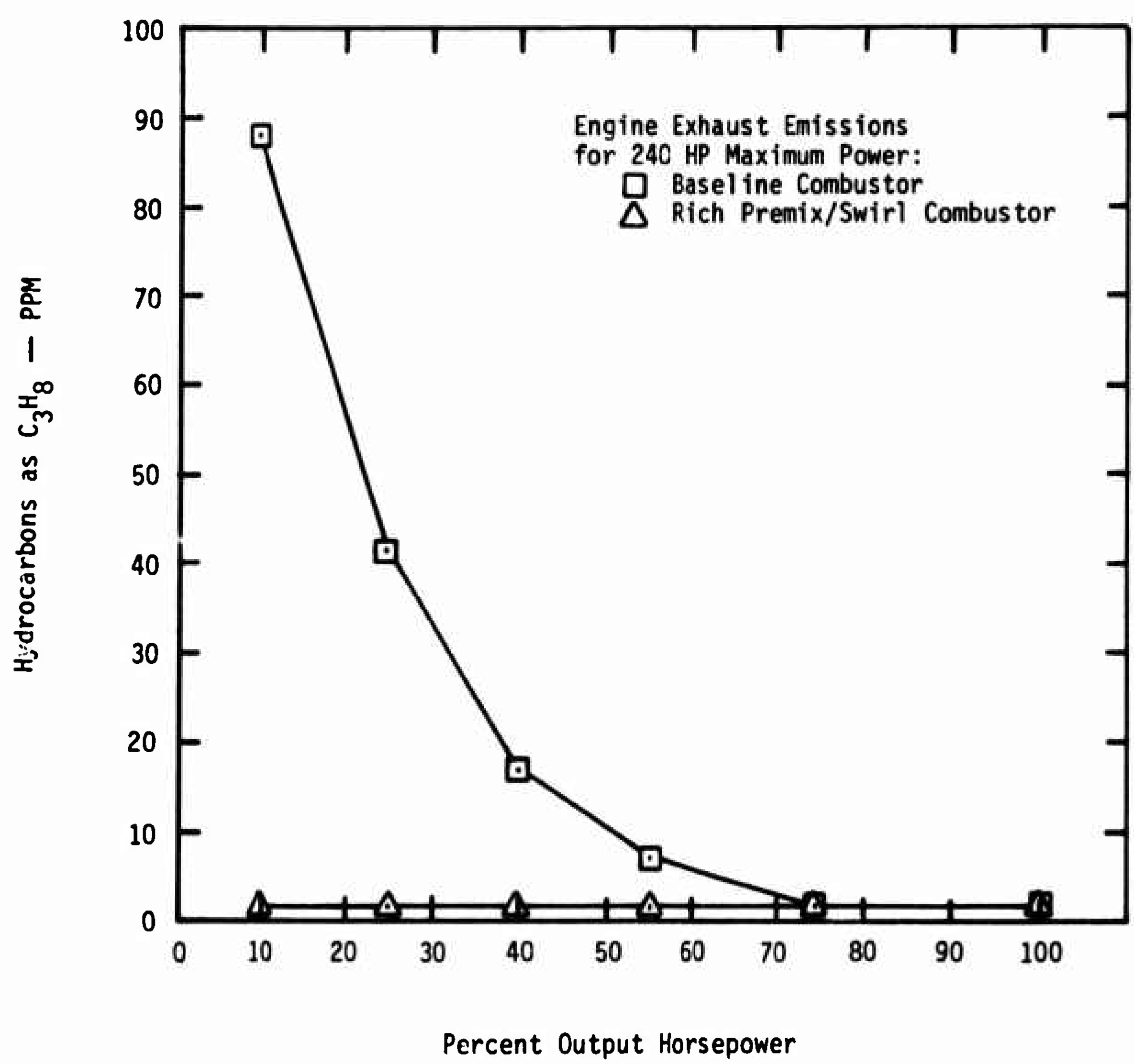

Figure 32. Nonregenerative T63-A-5A Combustor Hydrocarbon Emission Data Comparison.

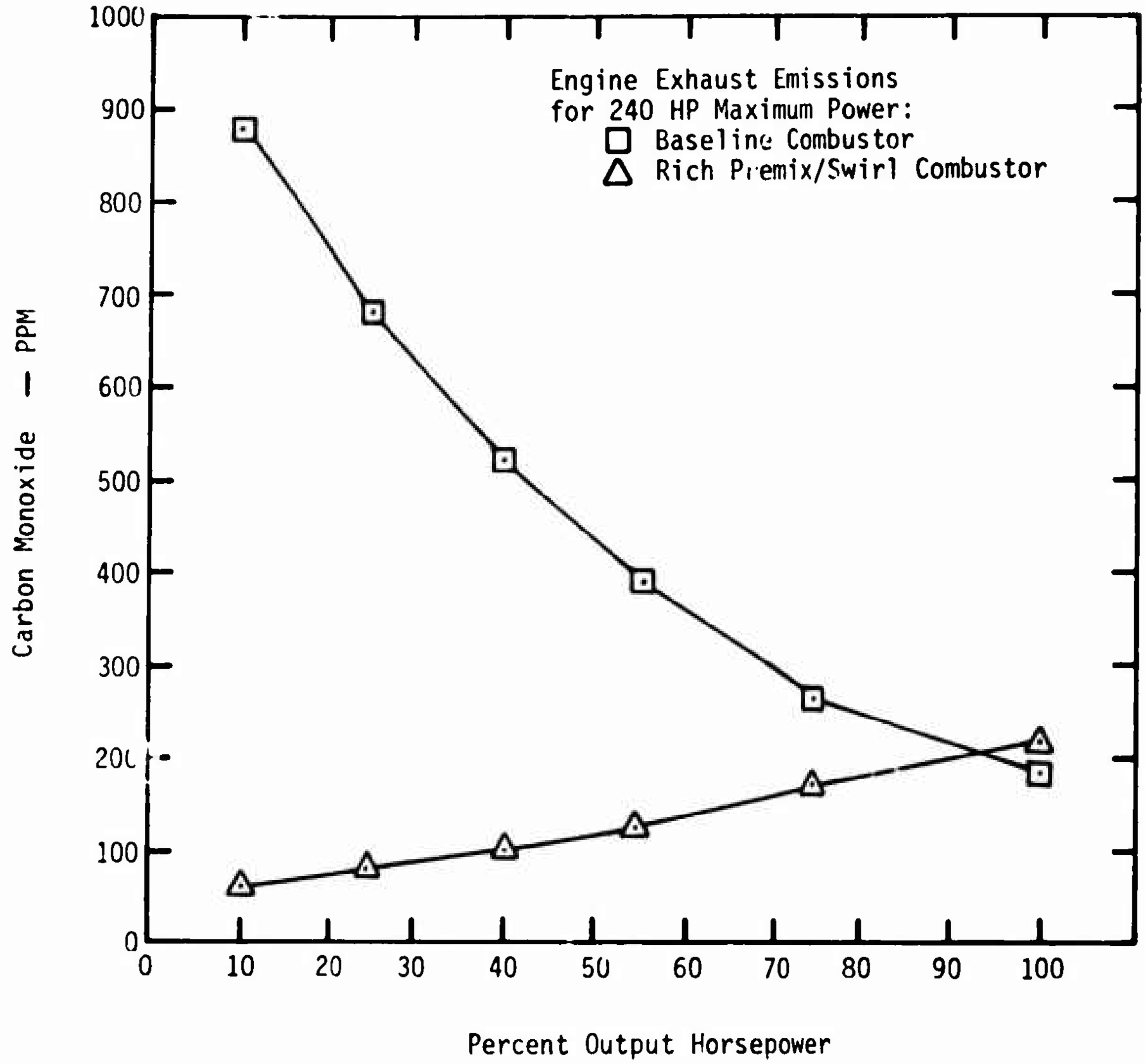

Figure 33. Nonregenerative T63-A-5A Combustor Carbon Monoxide Emission Data Comparison.

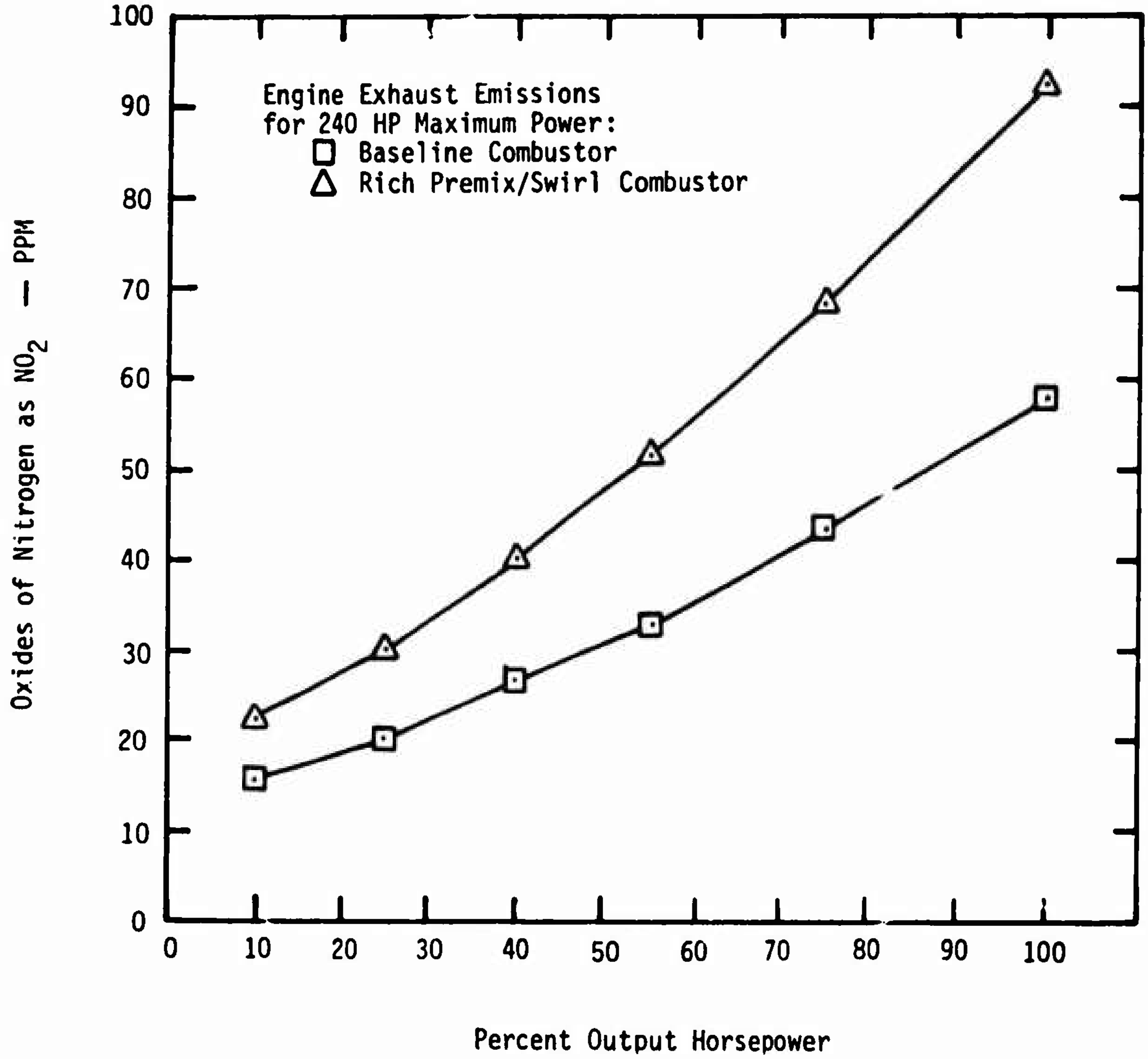

Figure 34. Nonregenerative T63-A-5A Combustor Nitrogen Oxides Emission Data Comparison.

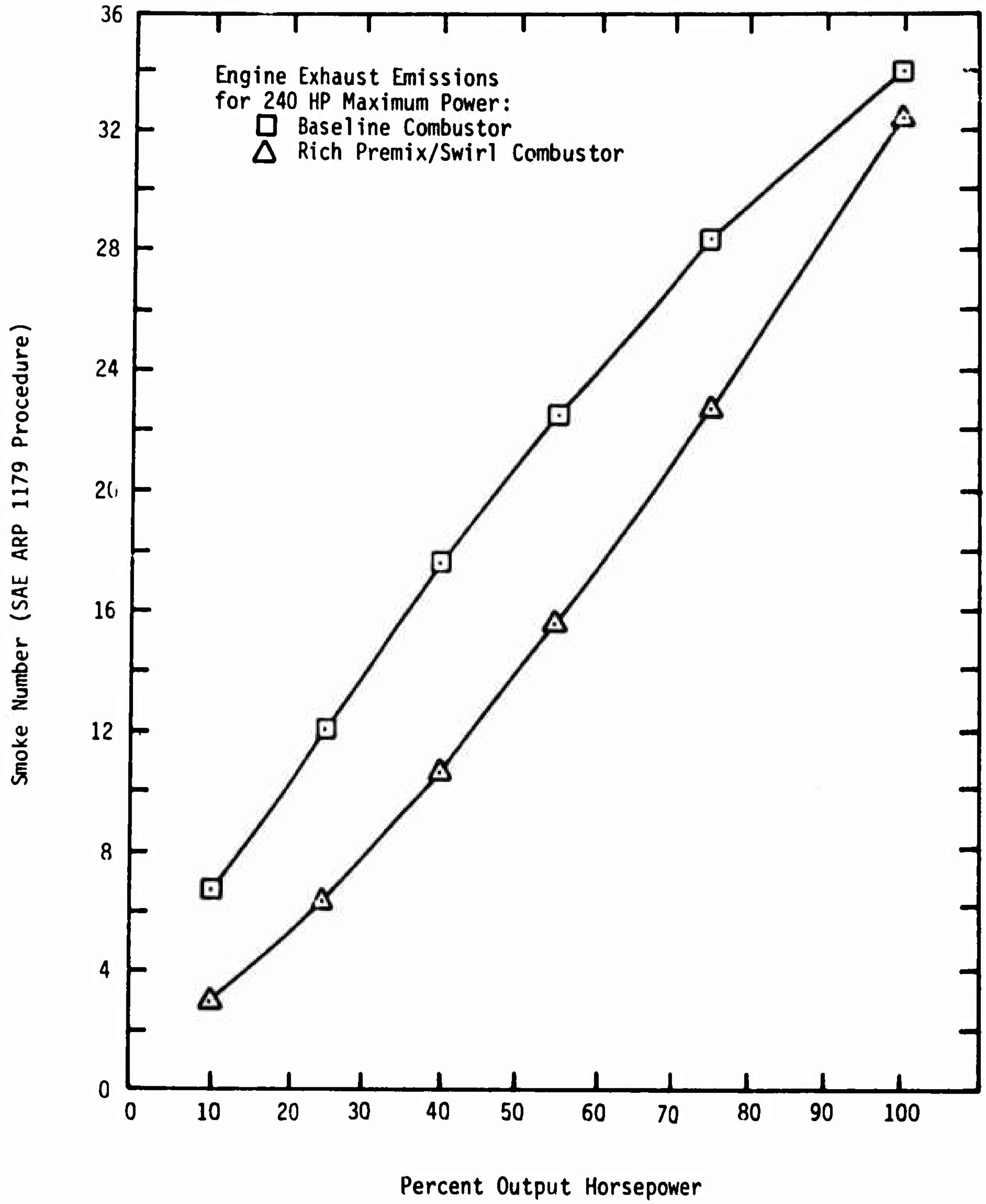

Figure 35. Nonregenerative T63-A-5A Combustor Smoke Data Comparison.

CONCLUSIONS

1. Comparisons of spectra obtained during combustor rig operation with and without burning were used to determine the frequency of T63 combustion noise, which was found to occur in approximately the 500 Hz octave band.

2. Burner design and performance parameters were correlated with the noise data by means of a computer regression analysis to generate a noise model:

$$\begin{aligned} SPL = {} & 11.27 \log_{10} (\text{fuel-air ratio}) \\ & + 4.64 \log_{10} (\text{total length}) \\ & + 1.71 \log_{10} (\text{flow split}) \\ & + 4.02 \log_{10} (\text{pressure drop/inlet pressure}) \\ & + K \end{aligned}$$

   However, the confidence factor that must be assigned to this equation is small, since the equation failed to collapse the evaluation data. Background noise from the test facility apparently obscured the noise influence of other design parameters.

3. No relationship between noise and emissions parameters was established.

4. No relationship between emissions and performance parameters was established. Results of the regression analysis indicated that there is no performance parameter or combination of parameters that will consistently correlate with the emission levels within $\pm$ 5%.

5. The effect of fuel mode on combustor noise was discovered to be negligible except for low power settings, where the

wall film mode provided a small noise reduction. Facility background noise apparently partially masked the measurable noise reduction. The wall film mode provided a large reduction in mass emissions over the entire operating range.

6. The engine tests conducted with a low emission burner, designated Rich Premix/Swirl, demonstrated a 3 dB combustion noise reduction as well as a 5 dB turbine noise reduction, compared to a standard T63 combustor.

RECOMMENDATIONS

It is recommended that:

1. Experiments directed toward relating combustor noise to mass emissions be continued following facility improvements to provide a more optimum acoustical environment.

2. The influence of combustor design on turbine noise be investigated analytically and experimentally. Although the turbine noise reduction demonstrated in the T63 engine is in a frequency range above audible, in larger engines the noise reduction thus achieved would be of benefit.

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APPENDIX I

COMBUSTOR NOISE SPECTRA

Sound pressure level (dB re 2 x $10^{-5}/Nm^2$) data, ordered by combustor configuration number and power setting, are presented in this appendix for the 59 burner configurations described in Table 4. Microphone positions 1, 2, and 3 are test cell microphones, and 4 and 5 are inlet and exhaust probes. The combustor power setting entry indicates the percent power. An R following the percent power indicates a regenerative cycle. Combustor power settings are described in Tables 1 and 2. Each configuration is not presented for all cycle points since each configuration was not tested at all cycle points. Columns of zeros indicate no data was recorded at that microphonc location for that particular run.

CONFIGURATION 1
T63-A-5A BASELINE
POWER SETTING 10
READING NO. 187

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	66.	64.	66.	130.	135.
63	71.	67.	69.	131.	134.
80	64.	63.	64.	131.	135.
100	66.	65.	67.	136.	138.
125	69.	65.	69.	138.	140.
160	70.	67.	71.	135.	139.
200	70.	68.	69.	139.	140.
250	73.	71.	74.	135.	140.
315	75.	74.	77.	134.	142.
400	77.	74.	75.	136.	141.
500	77.	74.	76.	131.	139.
630	75.	73.	77.	132.	140.
800	76.	77.	76.	130.	139.
1000	76.	76.	77.	130.	139.
1250	77.	76.	77.	130.	139.
1600	77.	74.	76.	131.	140.
2000	74.	72.	74.	131.	138.
2500	74.	73.	74.	131.	136.
3150	77.	74.	75.	132.	133.
4000	77.	75.	75.	131.	131.
5000	74.	72.	73.	125.	129.
6300	71.	70.	71.	124.	125.
8000	68.	69.	68.	120.	121.
10000	66.	65.	65.	115.	116.
12500	62.	62.	62.	114.	114.
16000	59.	59.	59.	109.	112.
20000	55.	54.	55.	108.	111.
OCTAVE FREQ					
63	73.	70.	72.	135.	139.
125	73.	71.	74.	141.	144.
250	78.	76.	79.	141.	146.
500	81.	78.	81.	138.	145.
1000	81.	81.	81.	135.	144.
2000	80.	78.	80.	136.	143.
4000	81.	79.	79.	135.	136.
8000	74.	73.	73.	126.	127.
16000	64.	64.	64.	116.	117.

CONFIGURATION 1
T63-A-5A BASELINE
POWER SETTING 10
READING NO. 170

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	65.	65.	65.	131.	136.
63	68.	67.	69.	129.	136.
80	63.	63.	64.	131.	137.
100	65.	65.	66.	136.	139.
125	67.	67.	68.	138.	143.
160	67.	66.	68.	136.	141.
200	68.	68.	69.	139.	141.
250	68.	71.	71.	134.	142.
315	72.	71.	72.	134.	143.
400	74.	73.	74.	137.	142.
500	75.	74.	77.	132.	141.
630	75.	76.	78.	133.	141.
800	76.	77.	78.	130.	141.
1000	77.	78.	79.	131.	140.
1250	78.	79.	79.	130.	141.
1600	77.	77.	77.	131.	140.
2000	75.	75.	76.	132.	139.
2500	75.	77.	77.	131.	137.
3150	78.	79.	77.	132.	134.
4000	78.	78.	77.	131.	134.
5000	75.	77.	75.	126.	131.
6300	72.	74.	73.	125.	128.
8000	70.	73.	71.	121.	122.
10000	66.	69.	68.	117.	119.
12500	63.	66.	64.	116.	116.
16000	60.	61.	61.	110.	113.
20000	55.	56.	57.	108.	112.
OCTAVE FREQ					
63	71.	70.	71.	135.	141.
125	71.	71.	72.	142.	146.
250	75.	75.	75.	141.	147.
500	79.	79.	81.	139.	146.
1000	82.	83.	83.	135.	145.
2000	81.	81.	81.	136.	144.
4000	82.	83.	81.	135.	138.
8000	75.	77.	76.	127.	129.
16000	65.	68.	66.	117.	119.

CONFIGURATION 1
T63-A-5A BASELINE
POWER SETTING 25
READING NO. 172

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	65.	64.	66.	132.	136.
63	68.	68.	69.	132.	137.
80	66.	64.	63.	132.	140.
100	68.	66.	67.	137.	142.
125	68.	67.	70.	140.	143.
160	67.	67.	67.	137.	144.
200	69.	68.	68.	141.	143.
250	68.	70.	70.	137.	143.
315	71.	71.	73.	136.	145.
400	76.	74.	75.	138.	144.
500	76.	76.	78.	134.	142.
630	76.	77.	78.	134.	143.
800	76.	77.	77.	132.	142.
1000	78.	79.	79.	132.	141.
1250	79.	79.	80.	131.	141.
1600	79.	78.	78.	133.	141.
2000	76.	76.	76.	133.	140.
2500	77.	77.	77.	132.	138.
3150	80.	79.	79.	133.	135.
4000	79.	79.	79.	133.	134.
5000	76.	78.	77.	127.	133.
6300	74.	75.	75.	126.	129.
8000	71.	74.	72.	122.	124.
10000	68.	70.	70.	118.	120.
12500	65.	67.	67.	116.	117.
16000	62.	63.	64.	111.	114.
20000	57.	58.	60.	109.	112.
OCTAVE FREQ					
63	71.	71.	71.	137.	143.
125	72.	71.	73.	143.	148.
250	74.	75.	76.	143.	149.
500	81.	81.	82.	141.	148.
1000	83.	83.	84.	136.	146.
2000	82.	82.	82.	137.	145.
4000	83.	83.	83.	137.	139.
8000	76.	79.	78.	128.	131.
16000	67.	69.	69.	118.	120.

CONFIGURATION 1
T63-A-5A BASELINE
POWER SETTING 40
READING NO. 174

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	65.	66.	65.	133.	139.
63	68.	69.	70.	134.	138.
80	66.	64.	65.	134.	140.
100	68.	65.	67.	139.	143.
125	67.	68.	70.	141.	147.
160	68.	69.	69.	139.	145.
200	71.	70.	71.	143.	145.
250	70.	70.	72.	139.	145.
315	72.	70.	74.	138.	147.
400	76.	76.	75.	140.	146.
500	76.	77.	80.	136.	143.
630	77.	78.	80.	136.	144.
800	76.	78.	78.	133.	144.
1000	79.	80.	81.	134.	142.
1250	79.	81.	81.	133.	143.
1600	80.	79.	80.	134.	143.
2000	77.	77.	79.	135.	143.
2500	78.	79.	79.	133.	140.
3150	81.	81.	80.	135.	137.
4000	80.	80.	81.	134.	135.
5000	78.	80.	80.	129.	135.
6300	75.	77.	76.	127.	132.
8000	72.	75.	74.	124.	127.
10000	70.	72.	71.	120.	122.
12500	67.	70.	68.	118.	118.
16000	64.	66.	65.	112.	115.
20000	59.	60.	61.	109.	113.
OCTAVE FREQ					
63	71.	72.	72.	138.	144.
125	72.	72.	74.	145.	150.
250	76.	75.	77.	145.	151.
500	81.	82.	84.	143.	149.
1000	83.	85.	85.	138.	148.
2000	83.	83.	84.	139.	147.
4000	85.	85.	85.	138.	141.
8000	79.	80.	79.	129.	134.
16000	69.	72.	70.	119.	121.

CONFIGURATION 1
T63-A-5A BASELINE
POWER SETTING 40
READING NO. 191

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	66.	67.	0.	133.	138.
63	69.	67.	0.	134.	138.
80	65.	64.	0.	135.	140.
100	67.	68.	0.	139.	143.
125	70.	69.	0.	142.	144.
160	70.	70.	0.	139.	144.
200	72.	72.	0.	143.	145.
250	74.	74.	0.	140.	145.
315	75.	75.	0.	139.	147.
400	77.	75.	0.	140.	145.
500	77.	76.	0.	137.	143.
630	78.	77.	0.	137.	144.
800	79.	79.	0.	134.	143.
1000	79.	81.	0.	134.	143.
1250	80.	81.	0.	133.	143.
1600	79.	78.	0.	134.	143.
2000	78.	78.	0.	135.	142.
2500	78.	78.	0.	133.	141.
3150	80.	80.	0.	135.	137.
4000	80.	79.	0.	134.	136.
5000	78.	78.	0.	130.	135.
6300	75.	77.	0.	128.	132.
8000	72.	75.	0.	124.	126.
10000	69.	71.	0.	120.	121.
12500	66.	68.	0.	117.	117.
16000	62.	63.	0.	111.	114.
20000	57.	57.	0.	109.	111.

OCTAVE FREQ	1	2	3	4	5
63	72.	71.	0.	139.	144.
125	74.	74.	0.	145.	148.
250	79.	79.	0.	146.	151.
500	82.	81.	0.	143.	149.
1000	84.	85.	0.	138.	148.
2000	83.	83.	0.	139.	147.
4000	84.	84.	0.	138.	141.
8000	77.	80.	0.	130.	133.
16000	68.	69.	0.	118.	119.

CONFIGURATION 1
T63-A-5A BASELINE
POWER SETTING 55
READING NO. 194

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	67.	0.	135.	138.
63	70.	69.	0.	134.	140.
80	65.	64.	0.	136.	140.
100	67.	67.	0.	140.	144.
125	69.	70.	0.	142.	146.
160	69.	71.	0.	141.	146.
200	72.	73.	0.	145.	146.
250	74.	74.	0.	140.	145.
315	76.	75.	0.	139.	147.
400	77.	76.	0.	141.	146.
500	79.	77.	0.	138.	144.
630	78.	78.	0.	137.	145.
800	79.	80.	0.	135.	144.
1000	80.	81.	0.	135.	143.
1250	80.	80.	0.	133.	144.
1600	81.	79.	0.	135.	145.
2000	79.	78.	0.	136.	145.
2500	79.	79.	0.	134.	142.
3150	81.	80.	0.	135.	139.
4000	81.	80.	0.	135.	137.
5000	78.	78.	0.	131.	136.
6300	76.	77.	0.	128.	134.
8000	73.	75.	0.	124.	128.
10000	70.	72.	0.	120.	123.
12500	66.	69.	0.	117.	123.
16000	63.	64.	0.	112.	121.
20000	57.	58.	0.	109.	121.
OCTAVE FREQ					
63	74.	72.	0.	140.	144.
125	73.	74.	0.	146.	150.
250	79.	79.	0.	147.	151.
500	83.	82.	0.	144.	150.
1000	84.	85.	0.	139.	148.
2000	85.	83.	0.	140.	149.
4000	85.	84.	0.	139.	142.
8000	78.	80.	0.	130.	135.
16000	68.	70.	0.	119.	127.

CONFIGURATION 1
T63-A-5A BASELINE
POWER SETTING 75
READING NO. 156

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	71.	70.	0.	134.	141.
63	80.	79.	0.	135.	140.
80	66.	66.	0.	137.	141.
100	68.	68.	0.	140.	146.
125	75.	74.	0.	144.	148.
160	74.	73.	0.	142.	148.
200	75.	75.	0.	144.	147.
250	75.	75.	0.	141.	146.
315	78.	79.	0.	141.	148.
400	77.	78.	0.	141.	148.
500	79.	77.	0.	140.	145.
630	81.	79.	0.	138.	146.
800	80.	79.	0.	135.	145.
1000	82.	82.	0.	135.	145.
1250	83.	83.	0.	134.	145.
1600	89.	88.	0.	136.	146.
2000	81.	80.	0.	136.	145.
2500	83.	83.	0.	135.	143.
3150	85.	83.	0.	136.	140.
4000	82.	80.	0.	136.	138.
5000	80.	79.	0.	132.	136.
6300	77.	77.	0.	128.	135.
8000	76.	76.	0.	125.	129.
10000	72.	73.	0.	121.	124.
12500	69.	70.	0.	117.	123.
16000	67.	67.	0.	112.	122.
20000	63.	62.	0.	109.	121.
OCTAVE FREQ					
63	81.	80.	0.	140.	145.
125	78.	77.	0.	147.	152.
250	81.	82.	0.	147.	152.
500	84.	83.	0.	145.	151.
1000	87.	86.	0.	139.	150.
2000	90.	90.	0.	140.	150.
4000	88.	86.	0.	140.	143.
8000	80.	80.	0.	130.	136.
16000	72.	72.	0.	119.	127.

CONFIGURATION 1
T63-A-5A BASELINE
POWER SETTING 100
READING NO. 198

		MICROPHONE POSITION			
1/3 OCT FREQ	1	2	3	4	5
50	77.	76.	77.	0.	0.
63	86.	85.	87.	0.	0.
80	72.	72.	73.	0.	0.
100	73.	73.	74.	0.	0.
125	78.	76.	80.	0.	0.
160	8.	77.	79.	0.	0.
200	80.	79.	81.	0.	0.
250	77.	78.	80.	0.	0.
315	80.	80.	83.	0.	0.
400	81.	80.	82.	0.	0.
500	81.	81.	83.	0.	0.
630	83.	83.	84.	0.	0.
800	83.	84.	85.	0.	0.
1000	85.	86.	86.	0.	0.
1250	85.	86.	86.	0.	0.
1600	86.	86.	88.	0.	0.
2000	87.	89.	88.	0.	0.
2500	88.	93.	90.	0.	0.
3150	88.	94.	92.	0.	0.
4000	90.	95.	92.	0.	0.
5000	90.	95.	93.	0.	0.
6300	91.	95.	95.	0.	0.
8000	91.	[illegible]	97.	0.	0.
10000	90.	93.	95.	0.	0.
12500	86.	90.	92.	0.	0.
16000	83.	86.	90.	0.	0.
20000	80.	83.	88.	0.	0.
OCTAVE FREQ					
63	87.	86.	88.	0.	0.
125	82.	80.	83.	0.	0.
250	84.	84.	86.	0.	0.
500	87.	86.	88.	0.	0.
1000	89.	90.	90.	0.	0.
2000	92.	95.	94.	0.	0.
4000	94.	99.	97.	0.	0.
8000	95.	99.	101.	0.	0.
16000	88.	92.	95.	0.	0.

CONFIGURATION 2
DDA AIR BLAST
POWER SETTING 10
READING NO. 200

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	66.	69.	68.	130.	133.
63	69.	66.	70.	130.	135.
80	65.	63.	63.	134.	137.
100	64.	65.	67.	137.	139.
125	67.	66.	68.	137.	141.
160	66.	68.	70.	139.	140.
200	71.	71.	72.	138.	141.
250	69.	69.	71.	138.	142.
315	71.	71.	73.	137.	142.
400	76.	75.	74.	133.	138.
500	74.	74.	75.	135.	139.
630	75.	75.	77.	135.	140.
800	76.	76.	78.	133.	138.
1000	75.	75.	76.	129.	139.
1250	75.	77.	75.	130.	139.
1600	75.	75.	75.	131.	139.
2000	74.	74.	74.	130.	136.
2500	73.	74.	75.	131.	135.
3150	75.	76.	75.	130.	132.
4000	76.	76.	76.	126.	132.
5000	73.	75.	74.	123.	129.
6300	71.	72.	73.	122.	126.
8000	68.	72.	73.	120.	122.
10000	65.	67.	68.	114.	117.
12500	63.	64.	64.	111.	114.
16000	59.	60.	62.	110.	112.
20000	55.	56.	57.	109.	111.

OCTAVE FREQ	1	2	3	4	5
63	72.	71.	73.	137.	140.
125	71.	71.	73.	143.	145.
250	75.	75.	77.	142.	146.
500	80.	79.	80.	139.	144.
1000	80.	81.	81.	136.	143.
2000	79.	79.	79.	135.	142.
4000	80.	80.	80.	132.	136.
8000	73.	76.	77.	125.	128.
16000	65.	66.	67.	115.	117.

CONFIGURATION 2
CCA AIR BLAST
POWER SETTING 25
READING NO. 203

	MICROPHCNE PCSITICN				
1/3 OCT FREQ	1	2	3	4	5
50	66.	67.	66.	133.	136.
63	68.	68.	69.	133.	136.
80	64.	64.	66.	136.	139.
100	65.	66.	68.	139.	140.
125	67.	67.	69.	139.	144.
160	67.	69.	70.	141.	142.
200	71.	70.	71.	141.	144.
250	71.	71.	72.	142.	145.
315	72.	72.	74.	138.	144.
400	74.	73.	75.	135.	141.
500	75.	74.	77.	136.	141.
630	76.	77.	79.	138.	142.
800	76.	76.	77.	136.	141.
1000	77.	77.	78.	131.	140.
1250	77.	78.	77.	132.	141.
1600	77.	77.	77.	133.	140.
2000	76.	76.	77.	132.	139.
2500	75.	76.	77.	133.	137.
3150	77.	78.	77.	132.	134.
4000	78.	79.	79.	129.	137.
5000	75.	77.	77.	124.	134.
6300	73.	74.	76.	123.	128.
8000	72.	76.	77.	121.	123.
10000	68.	72.	75.	116.	118.
12500	64.	67.	68.	112.	115.
16000	61.	63.	65.	110.	113.
20000	56.	57.	60.	109.	112.
OCTAVE FREQ					
63	71.	71.	72.	139.	142.
125	71.	72.	74.	145.	147.
250	76.	76.	77.	145.	149.
500	80.	80.	82.	141.	146.
1000	81.	82.	82.	138.	145.
2000	81.	81.	82.	137.	144.
4000	82.	83.	83.	134.	140.
8000	76.	79.	81.	126.	130.
16000	66.	69.	70.	115.	118.

CONFIGURATION 2
DCA AIR BLAST
POWER SETTING 40
READING NO. 205

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	67.	69.	68.	138.	139.
63	69.	67.	70.	135.	138.
80	65.	64.	66.	138.	141.
100	66.	66.	69.	143.	142.
125	69.	68.	71.	142.	146.
160	69.	71.	70.	143.	144.
200	72.	71.	72.	144.	146.
250	72.	72.	74.	145.	147.
315	74.	72.	75.	140.	146.
400	75.	73.	75.	137.	144.
500	75.	75.	77.	137.	142.
630	78.	79.	79.	141.	144.
800	78.	76.	77.	138.	143.
1000	78.	78.	78.	133.	142.
1250	78.	79.	79.	134.	142.
1600	78.	78.	78.	134.	143.
2000	77.	77.	78.	134.	141.
2500	76.	77.	78.	134.	140.
3150	79.	80.	79.	133.	136.
4000	80.	80.	80.	131.	137.
5000	77.	79.	79.	126.	137.
6300	74.	75.	77.	126.	131.
8000	72.	75.	77.	122.	126.
10000	70.	74.	76.	118.	121.
12500	66.	69.	70.	114.	117.
16000	63.	65.	67.	111.	114.
20000	57.	59.	62.	109.	112.
OCTAVE FREQ					
63	72.	72.	73.	142.	144.
125	73.	74.	75.	147.	149.
250	78.	76.	79.	148.	151.
500	81.	81.	82.	144.	148.
1000	83.	83.	83.	140.	147.
2000	82.	82.	83.	139.	146.
4000	84.	84.	84.	136.	141.
8000	77.	79.	81.	128.	133.
16000	68.	71.	72.	117.	120.

CONFIGURATION 2
DCA AIR BLAST
POWER SETTING 55
READING NO. 207

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	65.	67.	68.	141.	141.
63	68.	68.	70.	137.	140.
80	62.	65.	66.	140.	144.
100	62.	66.	69.	144.	144.
125	66.	70.	71.	142.	146.
160	66.	70.	72.	143.	146.
200	71.	73.	73.	146.	147.
250	70.	73.	75.	146.	148.
315	70.	73.	75.	140.	147.
400	72.	74.	74.	138.	144.
500	72.	75.	77.	138.	143.
630	75.	79.	80.	141.	145.
800	74.	77.	79.	139.	144.
1000	74.	78.	79.	134.	143.
1250	75.	80.	80.	134.	143.
1600	75.	78.	78.	135.	144.
2000	75.	78.	78.	134.	143.
2500	74.	78.	79.	135.	140.
3150	77.	81.	79.	134.	138.
4000	77.	80.	80.	131.	138.
5000	76.	81.	80.	126.	137.
6300	73.	77.	78.	127.	133.
8000	71.	77.	79.	122.	128.
10000	69.	76.	80.	118.	123.
12500	65.	73.	73.	115.	119.
16000	63.	67.	69.	111.	114.
20000	56.	61.	63.	109.	112.
OCTAVE FREQ					
63	70.	72.	73.	144.	147.
125	70.	74.	76.	148.	150.
250	75.	78.	79.	150.	152.
500	78.	81.	82.	144.	149.
1000	79.	83.	84.	141.	148.
2000	79.	83.	83.	139.	147.
4000	81.	85.	84.	136.	142.
8000	76.	81.	84.	129.	135.
16000	67.	74.	75.	117.	121.

CONFIGURATION 2
DCA AIR BLAST
POWER SETTING 75
READING NO. 209

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	72.	73.	141.	142.
63	78.	80.	82.	138.	142.
80	64.	67.	68.	141.	144.
100	65.	68.	70.	145.	146.
125	71.	73.	77.	146.	149.
160	72.	74.	76.	144.	147.
200	74.	76.	75.	149.	150.
250	73.	77.	77.	148.	148.
315	75.	79.	81.	140.	147.
400	75.	78.	79.	139.	146.
500	76.	79.	80.	139.	144.
630	78.	81.	82.	142.	146.
800	77.	80.	82.	140.	145.
1000	77.	81.	81.	136.	144.
1250	77.	82.	81.	135.	144.
1600	77.	80.	81.	136.	145.
2000	77.	81.	82.	135.	144.
2500	79.	85.	84.	136.	142.
3150	78.	81.	81.	135.	140.
4000	78.	81.	81.	133.	139.
5000	76.	82.	81.	127.	138.
6300	74.	78.	78.	129.	137.
8000	71.	76.	77.	124.	130.
10000	69.	75.	77.	119.	125.
12500	66.	73.	74.	115.	122.
16000	64.	68.	71.	112.	116.
20000	59.	62.	66.	110.	112.
OCTAVE FREQ					
63	79.	81.	83.	145.	148.
125	75.	77.	80.	150.	152.
250	79.	82.	83.	152.	153.
500	81.	84.	85.	145.	150.
1000	82.	86.	86.	142.	149.
2000	83.	87.	87.	140.	149.
4000	82.	86.	86.	138.	144.
8000	77.	81.	82.	131.	138.
16000	69.	74.	76.	118.	123.

CONFIGURATION 3
EXTENDED LENGTH
POWER SETTING 10
READING NO. 214

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	66.	66.	66.	136.	139.
63	68.	67.	69.	134.	139.
80	64.	62.	63.	139.	141.
100	65.	65.	67.	140.	143.
125	66.	68.	69.	138.	142.
160	67.	69.	70.	143.	144.
200	70.	71.	71.	141.	143.
250	69.	69.	71.	139.	144.
315	72.	71.	72.	139.	145.
400	75.	74.	75.	140.	141.
500	74.	74.	76.	134.	142.
630	77.	77.	78.	129.	142.
800	78.	79.	80.	133.	142.
1000	76.	80.	77.	135.	140.
1250	73.	73.	75.	129.	140.
1600	75.	78.	76.	130.	140.
2000	74.	74.	75.	130.	138.
2500	73.	74.	74.	129.	137.
3150	75.	75.	75.	128.	134.
4000	74.	75.	76.	124.	132.
5000	71.	74.	73.	122.	130.
6300	69.	72.	72.	120.	126.
8000	67.	70.	71.	117.	122.
10000	64.	66.	67.	114.	118.
12500	59.	61.	62.	112.	116.
16000	55.	56.	59.	110.	114.
20000	52.	52.	56.	109.	113.
OCTAVE FREQ					
63	71.	70.	71.	142.	145.
125	71.	72.	74.	146.	148.
250	75.	75.	76.	145.	149.
500	80.	80.	81.	141.	146.
1000	81.	83.	83.	138.	146.
2000	79.	81.	80.	134.	143.
4000	78.	79.	80.	130.	137.
8000	72.	75.	75.	122.	128.
16000	61.	63.	64.	115.	119.

CONFIGURATION 3
EXTENDED LENGTH
POWER SETTING 25
READING NO. 216

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	68.	68.	71.	138.	141.
63	75.	77.	79.	136.	140.
80	64.	65.	67.	141.	143.
100	67.	67.	69.	143.	143.
125	72.	74.	75.	140.	145.
160	73.	72.	74.	143.	144.
200	73.	72.	73.	141.	144.
250	74.	74.	76.	141.	144.
315	77.	78.	78.	140.	145.
400	79.	79.	78.	142.	143.
500	78.	77.	79.	138.	142.
630	80.	81.	81.	131.	143.
800	81.	82.	81.	133.	143.
1000	80.	82.	80.	138.	141.
1250	78.	77.	78.	131.	141.
1600	79.	79.	79.	131.	141.
2000	80.	79.	80.	131.	141.
2500	85.	82.	85.	131.	139.
3150	78.	78.	77.	129.	136.
4000	77.	77.	77.	126.	134.
5000	74.	76.	75.	123.	132.
6300	71.	74.	72.	121.	128.
8000	69.	71.	72.	119.	124.
10000	66.	68.	68.	115.	120.
12500	61.	63.	63.	113.	118.
16000	57.	58.	59.	111.	114.
20000	53.	53.	56.	110.	112.
OCTAVE FREQ					
63	76.	78.	80.	144.	146.
125	76.	77.	78.	147.	149.
250	80.	80.	81.	145.	149.
500	84.	84.	84.	144.	147.
1000	85.	86.	85.	140.	147.
2000	87.	85.	87.	136.	145.
4000	81.	82.	81.	131.	139.
8000	74.	76.	76.	124.	130.
16000	63.	65.	65.	116.	120.

CONFIGURATION 3
EXTENDED LENGTH
POWER SETTING 40
READING NO. 220

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	70.	71.	141.	142.
63	77.	80.	80.	138.	141.
80	65.	65.	66.	142.	144.
100	67.	67.	70.	144.	145.
125	75.	74.	79.	141.	146.
160	73.	73.	74.	143.	145.
200	74.	73.	73.	141.	147.
250	75.	75.	77.	141.	146.
315	78.	78.	78.	142.	147.
400	78.	79.	79.	143.	145.
500	77.	78.	79.	140.	145.
630	82.	83.	82.	132.	145.
800	81.	82.	82.	134.	145.
1000	81.	85.	83.	139.	144.
1250	78.	79.	80.	133.	143.
1600	80.	81.	80.	133.	143.
2000	80.	80.	83.	133.	143.
2500	79.	82.	88.	133.	141.
3150	79.	79.	79.	132.	138.
4000	79.	80.	81.	129.	137.
5000	76.	79.	79.	124.	135.
6300	73.	76.	76.	123.	131.
8000	71.	74.	75.	121.	127.
10000	66.	69.	70.	116.	123.
12500	62.	64.	65.	114.	121.
16000	58.	59.	61.	111.	116.
20000	54.	54.	57.	109.	113.
OCTAVE FREQ					
63	78.	81.	81.	145.	147.
125	78.	77.	81.	148.	150.
250	81.	81.	81.	146.	151.
500	84.	85.	85.	145.	150.
1000	85.	87.	87.	141.	149.
2000	84.	86.	90.	138.	147.
4000	83.	84.	85.	134.	142.
8000	76.	79.	79.	126.	133.
16000	64.	66.	67.	117.	123.

CONFIGURATION 3
EXTENDED LENGTH
POWER SETTING 55
READING NO. 223

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	71.	71.	144.	143.
63	78.	80.	81.	139.	145.
80	65.	66.	66.	143.	146.
100	67.	67.	70.	145.	147.
125	76.	75.	79.	141.	147.
160	72.	73.	74.	144.	147.
200	74.	75.	74.	142.	147.
250	75.	76.	78.	142.	147.
315	77.	78.	80.	142.	149.
400	78.	79.	79.	143.	147.
500	77.	78.	82.	142.	146.
630	81.	82.	83.	133.	146.
800	80.	82.	82.	134.	147.
1000	81.	85.	82.	141.	146.
1250	78.	80.	80.	134.	145.
1600	80.	81.	80.	134.	145.
2000	80.	80.	81.	134.	145.
2500	79.	81.	83.	133.	143.
3150	79.	80.	80.	132.	140.
4000	78.	80.	81.	129.	138.
5000	76.	79.	80.	125.	137.
6300	73.	77.	77.	125.	133.
8000	71.	76.	77.	121.	129.
10000	67.	71.	73.	116.	125.
12500	63.	67.	67.	114.	125.
16000	58.	60.	63.	111.	123.
20000	54.	55.	58.	110.	122.
OCTAVE FREQ					
63	79.	81.	82.	147.	150.
125	78.	78.	81.	148.	152.
250	80.	81.	83.	147.	153.
500	84.	85.	86.	146.	151.
1000	85.	88.	86.	142.	151.
2000	84.	85.	86.	138.	149.
4000	83.	84.	85.	134.	143.
8000	76.	80.	81.	127.	135.
16000	65.	68.	69.	117.	128.

CONFIGURATION 3
EXTENDED LENGTH
POWER SETTING 75
READING NO. 227

	MICROPHCNE PCSITICN				
1/3 OCT FREQ	1	2	3	4	5
50	69.	70.	72.	146.	146.
63	77.	79.	81.	142.	145.
80	63.	66.	68.	144.	147.
100	67.	68.	72.	147.	147.
125	75.	76.	80.	144.	149.
160	72.	73.	75.	145.	149.
200	74.	75.	75.	145.	150.
250	74.	76.	78.	144.	149.
315	76.	78.	80.	143.	149.
400	77.	79.	80.	143.	148.
500	77.	78.	80.	144.	147.
630	80.	82.	83.	134.	148.
800	80.	81.	83.	135.	148.
1000	82.	87.	84.	142.	147.
1250	80.	81.	82.	136.	146.
1600	80.	82.	82.	134.	146.
2000	80.	82.	82.	135.	145.
2500	82.	85.	84.	134.	144.
3150	79.	80.	81.	133.	141.
4000	79.	81.	81.	130.	139.
5000	76.	80.	80.	126.	137.
6300	74.	78.	79.	126.	135.
8000	71.	76.	79.	122.	130.
10000	67.	72.	76.	118.	126.
12500	63.	68.	69.	120.	125.
16000	58.	62.	65.	119.	123.
20000	54.	56.	60.	119.	122.
OCTAVE FREQ					
63	78.	80.	82.	149.	151.
125	77.	78.	82.	150.	153.
250	80.	81.	83.	149.	154.
500	83.	85.	86.	147.	152.
1000	86.	89.	88.	144.	152.
2000	86.	88.	88.	139.	150.
4000	83.	85.	85.	135.	144.
8000	76.	81.	83.	128.	137.
16000	65.	69.	71.	124.	128.

CONFIGURATION 3
EXTENDED LENGTH
POWER SETTING 100
READING NO. 230

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	67.	73.	74.	146.	146.
63	76.	81.	82.	143.	144.
80	63.	67.	70.	145.	147.
100	65.	70.	73.	148.	148.
125	73.	76.	80.	145.	149.
160	70.	75.	76.	145.	150.
200	71.	76.	76.	148.	150.
250	72.	77.	79.	145.	149.
315	74.	78.	81.	143.	150.
400	74.	78.	81.	143.	149.
500	74.	79.	80.	145.	148.
630	78.	83.	82.	136.	150.
800	78.	82.	83.	135.	148.
1000	79.	86.	84.	142.	148.
1250	78.	83.	83.	139.	148.
1600	77.	82.	81.	135.	147.
2000	77.	83.	83.	136.	147.
2500	78.	84.	85.	135.	145.
3150	77.	84.	82.	133.	143.
4000	77.	86.	84.	131.	141.
5000	75.	85.	84.	127.	139.
6300	74.	84.	85.	128.	138.
8000	73.	84.	85.	122.	133.
10000	71.	82.	84.	119.	128.
12500	70.	81.	79.	120.	127.
16000	68.	78.	79.	120.	124.
20000	62.	73.	73.	119.	122.
OCTAVE FREQ					
63	77.	82.	83.	150.	151.
125	75.	79.	82.	151.	154.
250	77.	82.	84.	151.	154.
500	81.	85.	86.	147.	154.
1000	83.	89.	88.	144.	153.
2000	82.	88.	88.	140.	151.
4000	81.	90.	88.	136.	146.
8000	78.	88.	89.	129.	140.
16000	73.	83.	83.	124.	130.

CONFIGURATION 4
DDA AIR BLAST LESS 8 O/O PRIMARY AIR
POWER SETTING 10
READING NO. 233

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	66.	65.	66.	132.	136.
63	70.	66.	70.	132.	137.
80	62.	63.	64.	136.	140.
100	66.	67.	68.	140.	142.
125	66.	69.	69.	138.	145.
160	69.	70.	69.	143.	142.
200	70.	70.	69.	140.	144.
250	68.	71.	71.	139.	144.
315	73.	73.	73.	137.	143.
400	75.	75.	76.	134.	139.
500	75.	74.	76.	135.	140.
630	75.	77.	78.	134.	140.
800	75.	77.	78.	134.	140.
1000	76.	76.	76.	130.	138.
1250	75.	78.	77.	130.	138.
1600	74.	75.	76.	130.	138.
2000	74.	74.	75.	131.	136.
2500	74.	76.	76.	131.	135.
3150	76.	78.	77.	131.	132.
4000	78.	78.	78.	128.	131.
5000	74.	75.	74.	123.	128.
6300	72.	73.	72.	120.	124.
8000	69.	71.	71.	118.	119.
10000	67.	69.	68.	114.	116.
12500	65.	68.	67.	113.	115.
16000	62.	63.	63.	111.	114.
20000	55.	56.	57.	110.	113.
OCTAVE FREQ					
63	72.	70.	72.	139.	143.
125	72.	74.	73.	146.	148.
250	76.	76.	76.	144.	148.
500	80.	80.	82.	139.	144.
1000	80.	82.	82.	137.	144.
2000	79.	80.	80.	135.	141.
4000	81.	82.	81.	133.	135.
8000	75.	76.	75.	123.	126.
16000	67.	69.	69.	116.	119.

CONFIGURATION 4
OCA AIR BLAST LESS 8 O/O PRIMARY AIR
POWER SETTING 25
READING NO. 237

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	68.	68.	136.	140.
63	71.	68.	68.	134.	138.
80	64.	65.	66.	138.	141.
100	101.	94.	98.	158.	160.
125	69.	70.	71.	140.	145.
160	68.	69.	69.	142.	144.
200	73.	72.	72.	142.	146.
250	69.	71.	72.	144.	147.
315	71.	72.	74.	139.	145.
400	76.	74.	76.	136.	142.
500	76.	75.	77.	137.	141.
630	75.	77.	77.	138.	142.
800	76.	77.	77.	137.	141.
1000	77.	78.	77.	132.	140.
1250	76.	78.	78.	132.	141.
1600	75.	76.	77.	132.	141.
2000	75.	76.	77.	132.	139.
2500	75.	77.	77.	133.	138.
3150	77.	78.	79.	133.	134.
4000	78.	80.	80.	130.	134.
5000	76.	77.	77.	124.	132.
6300	73.	75.	75.	123.	126.
8000	71.	73.	73.	121.	123.
10000	68.	73.	70.	116.	118.
12500	66.	70.	68.	114.	116.
16000	63.	65.	66.	111.	114.
20000	57.	58.	59.	110.	113.

OCTAVE FREQ					
63	73.	72.	72.	141.	145.
125	101.	94.	98.	158.	160.
250	76.	76.	78.	147.	151.
500	80.	80.	81.	142.	146.
1000	81.	82.	82.	139.	145.
2000	80.	81.	82.	137.	144.
4000	82.	83.	84.	135.	138.
8000	76.	79.	78.	126.	128.
16000	68.	71.	70.	117.	119.

CONFIGURATION 4
DCA AIR BLAST LESS 8 O/O PRIMARY AIR
POWER SETTING 40
READING NO. 240

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	0.	68.	70.	136.	142.
63	0.	76.	79.	134.	140.
80	0.	65.	66.	138.	144.
100	0.	98.	75.	149.	151.
125	0.	75.	76.	142.	147.
160	0.	73.	75.	145.	146.
200	0.	73.	73.	145.	147.
250	0.	76.	77.	146.	148.
315	0.	80.	80.	141.	147.
400	0.	78.	79.	138.	144.
500	0.	77.	78.	138.	143.
630	0.	81.	81.	140.	144.
800	0.	80.	80.	139.	143.
1000	0.	80.	80.	134.	142.
1250	0.	81.	80.	133.	143.
1600	0.	79.	80.	133.	143.
2000	0.	79.	91.	134.	141.
2500	0.	81.	84.	134.	141.
3150	0.	81.	81.	135.	137.
4000	0.	81.	81.	133.	136.
5000	0.	80.	79.	126.	134.
6300	0.	79.	77.	125.	130.
8000	0.	75.	75.	123.	125.
10000	0.	73.	72.	118.	120.
12500	0.	70.	70.	116.	118.
16000	0.	66.	67.	112.	115.
20000	0.	59.	61.	110.	113.
OCTAVE FREQ					
63	0.	77.	80.	141.	147.
125	0.	98.	80.	151.	153.
250	0.	82.	82.	149.	152.
500	0.	84.	84.	144.	148.
1000	0.	85.	85.	141.	147.
2000	0.	85.	87.	138.	147.
4000	0.	85.	85.	137.	141.
8000	0.	81.	80.	128.	132.
16000	0.	72.	72.	118.	121.

CONFIGURATION 4
OCA AIR BLAST LESS 8 O/O PRIMARY AIR
POWER SETTING 55
READING NO. 243

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	0.	69.	70.	140.	141.
63	0.	78.	79.	136.	140.
80	0.	65.	66.	139.	143.
100	0.	69.	71.	143.	145.
125	0.	75.	77.	143.	148.
160	0.	74.	74.	144.	146.
200	0.	75.	74.	146.	148.
250	0.	77.	77.	146.	148.
315	0.	80.	81.	141.	148.
400	0.	78.	79.	139.	145.
500	0.	78.	78.	139.	144.
630	0.	81.	81.	141.	145.
800	0.	80.	80.	141.	145.
1000	0.	81.	81.	135.	142.
1250	0.	81.	80.	134.	143.
1600	0.	80.	81.	134.	144.
2000	0.	80.	80.	134.	143.
2500	0.	82.	81.	135.	141.
3150	0.	81.	81.	135.	139.
4000	0.	81.	81.	133.	137.
5000	0.	80.	80.	127.	136.
6300	0.	78.	77.	126.	132.
8000	0.	75.	75.	124.	127.
10000	0.	74.	73.	118.	122.
12500	0.	72.	70.	116.	119.
16000	0.	66.	69.	111.	115.
20000	0.	60.	62.	110.	112.
OCTAVE FREQ					
63	0.	79.	80.	143.	146.
125	0.	78.	79.	148.	151.
250	0.	83.	83.	150.	153.
500	0.	84.	84.	145.	149.
1000	0.	85.	85.	143.	148.
2000	0.	86.	85.	139.	148.
4000	0.	85.	85.	138.	142.
8000	0.	81.	80.	129.	134.
16000	0.	73.	73.	118.	121.

CONFIGURATION 4
CCA AIR BLAST LESS 8 O/O PRIMARY AIR
POWER SETTING 75
READING NO. 246

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	0.	69.	70.	140.	144.
63	0.	78.	79.	137.	142.
80	0.	67.	67.	141.	145.
100	0.	70.	71.	144.	147.
125	0.	77.	78.	144.	148.
160	0.	75.	75.	144.	147.
200	0.	75.	74.	149.	150.
250	0.	77.	78.	147.	149.
315	0.	80.	81.	141.	147.
400	0.	79.	80.	139.	146.
500	0.	77.	79.	140.	145.
630	0.	81.	82.	143.	146.
800	0.	80.	81.	141.	146.
1000	0.	81.	82.	136.	144.
1250	0.	81.	81.	135.	144.
1600	0.	81.	82.	134.	144.
2000	0.	80.	81.	135.	143.
2500	0.	82.	82.	136.	142.
3150	0.	81.	81.	136.	140.
4000	0.	82.	81.	134.	138.
5000	0.	81.	81.	127.	137.
6300	0.	78.	78.	128.	134.
8000	0.	77.	77.	123.	128.
10000	0.	77.	77.	119.	124.
12500	0.	73.	73.	116.	121.
16000	0.	66.	67.	112.	116.
20000	0.	59.	61.	110.	113.

OCTAVE FREQ	1	2	3	4	5
63	0.	79.	80.	144.	149.
125	0.	80.	80.	149.	152.
250	0.	83.	83.	152.	154.
500	0.	84.	85.	146.	150.
1000	0.	85.	86.	143.	150.
2000	0.	86.	86.	140.	148.
4000	0.	86.	86.	138.	143.
8000	0.	82.	82.	130.	135.
16000	0.	74.	74.	118.	123.

CONFIGURATION 4
DCA AIR BLAST LESS 8 O/O PRIMARY AIR
POWER SETTING 100
READING NO. 249

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	0.	71.	72.	142.	144.
63	0.	78.	80.	140.	144.
80	0.	68.	69.	141.	145.
100	0.	71.	72.	146.	149.
125	0.	78.	80.	146.	150.
160	0.	75.	75.	146.	151.
200	0.	76.	76.	153.	151.
250	0.	76.	79.	146.	149.
315	0.	80.	80.	141.	149.
400	0.	79.	80.	140.	148.
500	0.	78.	80.	141.	147.
630	0.	82.	82.	145.	148.
800	0.	82.	84.	144.	148.
1000	0.	82.	84.	138.	146.
1250	0.	82.	81.	135.	146.
1600	0.	81.	83.	135.	146.
2000	0.	82.	85.	135.	146.
2500	0.	87.	83.	136.	144.
3150	0.	82.	81.	136.	141.
4000	0.	83.	82.	135.	140.
5000	0.	82.	82.	128.	138.
6300	0.	81.	80.	130.	137.
8000	0.	80.	80.	124.	132.
10000	0.	81.	79.	120.	127.
12500	0.	76.	77.	121.	126.
16000	0.	71.	72.	120.	123.
20000	0.	65.	67.	120.	122.
OCTAVE FREQ					
63	0.	79.	81.	146.	149.
125	0.	80.	82.	151.	155.
250	0.	83.	83.	154.	155.
500	0.	85.	86.	147.	152.
1000	0.	87.	88.	145.	152.
2000	0.	89.	89.	140.	150.
4000	0.	87.	86.	139.	145.
8000	0.	85.	34.	131.	139.
16000	0.	77.	79.	125.	129.

CONFIGURATION 5
DDA AIR BLAST LESS 33 O/O PRIMARY AIR
POWER SETTING 10
READING NO. 252

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	65.	66.	68.	132.	137.
63	68.	67.	70.	132.	136.
80	63.	63.	64.	137.	141.
100	66.	67.	68.	141.	142.
125	66.	69.	73.	139.	144.
160	66.	70.	69.	143.	144.
200	68.	69.	68.	140.	144.
250	68.	70.	72.	139.	145.
315	72.	74.	76.	137.	144.
400	75.	79.	74.	134.	140.
500	71.	74.	75.	134.	140.
630	73.	76.	79.	134.	140.
800	75.	77.	79.	134.	140.
1000	74.	77.	77.	131.	138.
1250	74.	78.	78.	130.	139.
1600	72.	74.	76.	131.	139.
2000	72.	75.	75.	131.	137.
2500	71.	75.	75.	132.	136.
3150	74.	77.	76.	132.	133.
4000	76.	78.	78.	129.	133.
5000	72.	74.	74.	124.	129.
6300	69.	72.	72.	122.	125.
8000	66.	71.	70.	120.	121.
10000	62.	67.	66.	116.	117.
12500	59.	64.	63.	113.	116.
16000	56.	59.	59.	111.	114.
20000	53.	53.	55.	110.	113.
OCTAVE FREQ					
63	71.	70.	73.	139.	143.
125	71.	74.	75.	146.	148.
250	75.	76.	78.	144.	149.
500	78.	82.	81.	139.	145.
1000	79.	82.	83.	137.	144.
2000	76.	79.	80.	136.	142.
4000	79.	81.	81.	134.	137.
8000	71.	75.	75.	125.	127.
16000	61.	65.	65.	116.	119.

CONFIGURATION 5
DDA AIR BLAST LESS 33 0/0 PRIMARY AIR
POWER SETTING 25
READING NO. 255

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	66.	67.	67.	135.	140.
63	68.	68.	70.	134.	139.
80	63.	63.	63.	138.	142.
100	66.	102.	91.	147.	153.
125	66.	69.	71.	141.	146.
160	67.	71.	71.	143.	145.
200	72.	70.	70.	141.	145.
250	69.	71.	72.	141.	145.
315	73.	74.	75.	138.	145.
400	76.	78.	75.	136.	142.
500	73.	75.	76.	136.	142.
630	75.	77.	79.	136.	142.
800	77.	78.	78.	137.	142.
1000	76.	78.	78.	132.	141.
1250	76.	78.	79.	132.	140.
1600	75.	76.	78.	132.	141.
2000	75.	76.	76.	132.	139.
2500	74.	77.	77.	133.	138.
3150	77.	78.	78.	133.	135.
4000	79.	81.	80.	131.	134.
5000	76.	77.	77.	125.	131.
6300	73.	75.	74.	123.	127.
8000	70.	72.	73.	122.	124.
10000	67.	71.	70.	117.	119.
12500	63.	67.	65.	115.	117.
16000	59.	61.	61.	112.	115.
20000	55.	55.	56.	110.	113.
OCTAVE FREQ					
63	71.	71.	72.	141.	145.
125	71.	102.	91.	149.	154.
250	76.	77.	78.	145.	150.
500	80.	82.	82.	141.	147.
1000	81.	83.	83.	139.	146.
2000	79.	81.	82.	137.	144.
4000	82.	84.	83.	136.	138.
8000	75.	78.	77.	126.	129.
16000	65.	68.	67.	118.	120.

CONFIGURATION 5
CCA AIR BLAST LESS 33 O/O PRIMARY AIR
POWER SETTING 40
READING NO. 258

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	71.	71.	71.	137.	142.
63	82.	80.	81.	135.	140.
80	65.	64.	66.	139.	142.
100	96.	100.	78.	143.	144.
125	74.	73.	76.	142.	147.
160	73.	74.	73.	144.	147.
200	74.	73.	74.	144.	147.
250	74.	75.	78.	142.	146.
315	78.	78.	80.	140.	147.
400	81.	81.	81.	138.	144.
500	79.	78.	80.	138.	144.
630	80.	81.	82.	139.	144.
800	80.	81.	81.	139.	144.
1000	81.	81.	81.	134.	143.
1250	94.	89.	90.	133.	143.
1600	89.	87.	88.	133.	143.
2000	80.	81.	80.	134.	142.
2500	82.	88.	85.	134.	141.
3150	79.	80.	81.	135.	137.
4000	81.	81.	82.	133.	136.
5000	79.	80.	80.	127.	135.
6300	76.	77.	77.	125.	130.
8000	74.	76.	76.	124.	126.
10000	70.	73.	72.	119.	121.
12500	66.	69.	68.	116.	118.
16000	61.	63.	63.	112.	115.
20000	56.	57.	57.	111.	114.

OCTAVE FREQ	1	2	3	4	5
63	82.	81.	82.	142.	146.
125	96.	100.	81.	148.	151.
250	81.	81.	83.	147.	151.
500	85.	85.	86.	143.	149.
1000	94.	90.	91.	141.	148.
2000	90.	91.	90.	138.	147.
4000	85.	85.	86.	138.	141.
8000	79.	80.	80.	128.	132.
16000	68.	70.	69.	118.	121.

CONFIGURATION 5
DDA AIR BLAST LESS 33 O/O PRIMARY AIR
POWER SETTING 55
READING NO. 261

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.	70.	70.	137.	141.
63	79.	78.	79.	137.	142.
80	65.	65	67.	139.	144.
100	68.	69.	71.	143.	146.
125	74.	73.	77.	144.	149.
160	73.	74.	74.	144.	147.
200	74.	73.	74.	146.	148.
250	75.	76.	77.	143.	147.
315	79.	79.	81.	140.	148.
400	79.	80.	80.	138.	145.
500	79.	78.	80.	138.	145.
630	81.	81.	83.	140.	146.
800	81.	81.	82.	140.	145.
1000	81.	81.	81.	136.	144.
1250	80.	81.	82.	134.	144.
1600	80.	80	81.	135.	144.
2000	79.	81.	80.	135.	143.
2500	80.	85.	82.	136.	141.
3150	80.	80.	81.	136.	139.
4000	81.	81.	82.	134.	138.
5000	80.	80.	80.	128.	137.
6300	77.	78.	77.	127.	132.
8000	75.	77.	77.	125.	128.
10000	72.	75.	74.	120.	123.
12500	68.	72.	69.	117.	120.
16000	63.	64.	64.	112.	116.
20000	57.	57.	58.	110.	113.

OCTAVE FREQ	1	2	3	4	5
63	80.	79.	80.	143.	147.
125	77.	77.	79.	148.	152.
250	81.	81.	83.	148.	152.
500	85.	85.	86.	144.	150.
1000	85.	86.	86.	142.	149.
2000	84.	87.	86.	140.	148.
4000	85.	85.	86.	139.	143.
8000	80.	82.	81.	130.	134.
16000	69.	73.	70.	119.	122.

CONFIGURATION 5
DDA AIR BLAST LESS 33 0/0 PRIMARY AIR
POWER SETTING 75
READING NO. 264

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.	70.	71.	139.	143.
63	79.	79.	79.	136.	142.
80	67.	66.	68.	139.	145.
100	68.	68.	72.	144.	147.
125	73.	74.	77.	144.	148.
160	73.	75.	75.	144.	148.
200	75.	74.	75.	147.	150.
250	75.	76.	79.	143.	147.
315	79.	79.	80.	140.	147.
400	79.	80.	79.	138.	146.
500	79.	78.	79.	139.	145.
630	82.	82.	84.	141.	147.
800	81.	82.	82.	142.	146.
1000	82.	82.	81.	137.	145.
1250	81.	82.	82.	135.	145.
1600	81.	81.	82.	135.	145.
2000	82.	82.	82.	135.	145.
2500	83.	83.	82.	136.	143.
3150	80.	81.	81.	136.	141.
4000	81.	81.	81.	134.	139.
5000	81.	81.	81.	128.	137.
6300	78.	79.	79.	128.	135.
8000	76.	79.	79.	124.	129.
10000	75.	79.	78.	120.	124.
12500	71.	75.	73.	117.	122.
16000	66.	68.	68.	113.	117.
20000	59.	61.	61.	110.	113.

OCTAVE FREQ	1	2	3	4	5
63	80.	80.	80.	143.	148.
125	77.	78.	80.	149.	152.
250	82.	82.	83.	149.	153.
500	85.	85.	86.	144.	151.
1000	86.	87.	86.	144.	150.
2000	87.	87.	87.	140.	149.
4000	85.	86.	86.	139.	144.
8000	81.	84.	83.	130.	136.
16000	72.	76.	74.	119.	124.

CONFIGURATION 5
DDA AIR BLAST LESS 33 O/O PRIMARY AIR
POWER SETTING 100
READING NO. 267

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	72.	72.	73.	140.	144.
63	80.	79.	79.	138.	144.
80	68.	69.	70.	139.	145.
100	70.	71.	73.	145.	148.
125	75.	76.	79.	145.	150.
160	75.	76.	76.	144.	151.
200	75.	75.	77.	150.	151.
250	77.	76.	79.	143.	148.
315	79.	80.	80.	140.	149.
400	79.	80.	80.	139.	148.
500	79.	78.	81.	140.	147.
630	82.	83.	84.	143.	149.
800	85.	86.	85.	142.	148.
1000	87.	87.	86.	138.	147.
1250	81.	83.	83.	136.	147.
1600	83.	85.	84.	136.	147.
2000	87.	88.	86.	136.	146.
2500	88.	88.	87.	137.	145.
3150	82.	84.	83.	137.	142.
4000	83.	85.	84.	135.	141.
5000	83.	84.	85.	128.	139.
6300	81.	85.	85.	129.	138.
8000	80.	85.	86.	124.	132.
10000	80.	86.	89.	120.	128.
12500	79.	85.	88.	117.	126.
16000	75.	79.	81.	113.	124.
20000	70.	73.	75.	110.	122.
OCTAVE FREQ					
63	81.	80.	80.	144.	149.
125	79.	80.	81.	149.	155.
250	82.	82.	84.	151.	154.
500	85.	86.	87.	146.	153.
1000	90.	90.	90.	144.	152.
2000	91.	92.	91.	141.	151.
4000	87.	89.	89.	139.	146.
8000	85.	90.	92.	131.	139.
16000	81.	86.	89.	119.	129.

CONFIGURATION 6
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 33
POWER SETTING 40
READING NO. 293

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	64.	65.	66.	136.	139.
63	70.	68.	72.	135.	142.
80	66.	66.	66.	141.	145.
100	83.	83.	85.	153.	155.
125	68.	70.	70.	136.	143.
160	70.	71.	70.	140.	142.
200	73.	73.	72.	134.	143.
250	71.	71.	72.	135.	145.
315	74.	73.	73.	138.	145.
400	79.	78.	76.	139.	143.
500	79.	79.	82.	139.	143.
630	79.	79.	81.	132.	143.
800	80.	79.	80.	132.	143.
1000	80.	79.	80.	133.	142.
1250	79.	79.	80.	133.	143.
1600	82.	81.	82.	133.	144.
2000	79.	79.	80.	133.	143.
2500	78.	79.	79.	132.	140.
3150	80.	80.	80.	131.	137.
4000	81.	81.	81.	127.	138.
5000	81.	81.	81.	124.	140.
6300	77.	78.	78.	124.	133.
8000	74.	76.	76.	121.	127.
10000	70.	73.	74.	117.	123.
12500	66.	69.	71.	114.	119.
16000	62.	65.	66.	111.	115.
20000	57.	58.	60.	109.	112.
OCTAVE FREQ					
63	72.	71.	74.	143.	147.
125	83.	83.	85.	153.	155.
250	78.	77.	77.	141.	149.
500	84.	83.	85.	142.	148.
1000	84.	84.	85.	137.	147.
2000	85.	85.	85.	137.	147.
4000	85.	85.	85.	133.	143.
8000	79.	81.	81.	126.	134.
16000	68.	71.	72.	117.	121.

CONFIGURATION 7
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 50
POWER SETTING 10
READING NO. 283

		MICROPHONE POSITION			
1/3 OCT FREQ	1	2	3	4	5
50	64.	62.	64.	133.	139.
63	69.	68.	69.	134.	138.
80	67.	67.	66.	136.	140.
100	71.	71.	71.	141.	144.
125	66.	67.	68.	134.	141.
160	70.	71.	70.	136.	138.
200	72.	74.	71.	132.	140.
250	69.	70.	71.	133.	142.
315	72.	72.	72.	132.	141.
400	78.	78.	75.	137.	138.
500	75.	76.	80.	134.	139.
630	78.	78.	79.	128.	138.
800	79.	79.	79.	128.	139.
1000	78.	77.	77.	129.	138.
1250	74.	75.	75.	129.	139.
1600	77.	77.	77.	130.	139.
2000	74.	74.	75.	129.	137.
2500	74.	74.	75.	127.	136.
3150	75.	75.	75.	126.	132.
4000	80.	79.	79.	123.	134.
5000	75.	76.	76.	121.	130.
6300	72.	73.	73.	119.	125.
8000	70.	71.	71.	116.	122.
10000	66.	67.	68.	113.	117.
12500	62.	63.	65.	111.	114.
16000	58.	59.	61.	109.	112.
20000	54.	54.	55.	108.	111.
OCTAVE FREQ					
63	72.	71.	72.	139.	144.
125	74.	75.	75.	143.	146.
250	76.	77.	76.	137.	146.
500	82.	83.	83.	139.	143.
1000	82.	82.	82.	133.	143.
2000	80.	80.	81.	134.	142.
4000	82.	82.	82.	129.	137.
8000	75.	76.	76.	121.	127.
16000	64.	65.	67.	114.	117.

CONFIGURATION 7
VAR GEOM CONST DIA SWIRL DOME O/C OPEN DZ = 50
POWER SETTING 25
READING NO. 287

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	63.	63.	64.	134.	140.
63	67.	67.	70.	134.	141.
80	67.	66.	66.	137.	141.
100	81.	85.	76.	145.	152.
125	67.	67.	70.	136.	141.
160	69.	71.	70.	139.	140.
200	72.	73.	73.	134.	142.
250	70.	71.	74.	137.	144.
315	72.	73.	74.	136.	144.
400	79.	79.	76.	141.	141.
500	77.	79.	81.	138.	142.
630	79.	79.	81.	131.	141.
800	80.	80.	80.	131.	142.
1000	78.	78.	79.	132.	140.
1250	77.	77.	77.	131.	141.
1600	79.	80.	80.	132.	141.
2000	77.	78.	78.	131.	141.
2500	76.	77.	77.	129.	138.
3150	77.	77.	77.	129.	135.
4000	80.	80.	82.	125.	137.
5000	79.	79.	80.	123.	135.
6300	75.	75.	75.	121.	128.
8000	71.	73.	73.	118.	124.
10000	68.	69.	70.	115.	120.
12500	63.	65.	67.	113.	117.
16000	60.	61.	64.	110.	114.
20000	55.	54.	57.	109.	112.
OCTAVE FREQ					
63	71.	70.	72.	140.	145.
125	81.	85.	78.	146.	153.
250	76.	77.	78.	141.	148.
500	83.	84.	85.	143.	146.
1000	83.	83.	84.	136.	146.
2000	82.	83.	83.	136.	145.
4000	84.	84.	85.	131.	141.
8000	77.	78.	78.	123.	130.
16000	65.	67.	69.	116.	120.

CONFIGURATION 7
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 50
POWER SETTING 40
READING NO. 291

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	64.	64.	66.	135.	139.
63	69.	70.	70.	134.	141.
80	66.	66.	66.	136.	141.
100	94.	92.	90.	149.	156.
125	68.	69.	71.	135.	142.
160	69.	72.	70.	140.	142.
200	73.	74.	73.	134.	143.
250	71.	71.	73.	137.	145.
315	73.	73.	74.	138.	144.
400	80.	79.	77.	140.	142.
500	79.	79.	82.	141.	143.
630	79.	79.	80.	132.	143.
800	81.	81.	80.	133.	144.
1000	80.	80.	80.	134.	142.
1250	78.	79.	80.	133.	142.
1600	81.	81.	82.	133.	143.
2000	80.	80.	81.	133.	144.
2500	78.	78.	79.	131.	140.
3150	79.	80.	80.	130.	137.
4000	81.	81.	82.	127.	138.
5000	81.	81.	82.	124.	137.
6300	76.	77.	77.	124.	131.
8000	73.	75.	76.	121.	127.
10000	70.	71.	73.	117.	122.
12500	65.	68.	70.	114.	119.
16000	61.	65.	66.	111.	115.
20000	56.	57.	60.	110.	112.
OCTAVE FREQ					
63	72.	72.	73.	140.	145.
125	94.	92.	90.	150.	156.
250	77.	78.	78.	141.	149.
500	84.	84.	85.	144.	147.
1000	85.	85.	85.	138.	148.
2000	85.	85.	86.	137.	147.
4000	85.	85.	86.	132.	142.
8000	78.	80.	80.	126.	133.
16000	67.	70.	72.	117.	121.

CONFIGURATION 8
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 67
POWER SETTING 10
READING NO. 281

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	62.	63.	64.	132.	136.
63	66.	67.	69.	131.	135.
80	66.	66.	66.	131.	136.
100	70.	70.	71.	135.	139.
125	67.	67.	69.	132.	139.
160	71.	71.	70.	137.	139.
200	72.	73.	70.	135.	142.
250	69.	71.	72.	134.	142.
315	72.	71.	73.	133.	139.
400	78.	78.	75.	142.	139.
500	76.	79.	79.	133.	139.
630	78.	77.	80.	129.	138.
800	78.	78.	79.	129.	139.
1000	76.	77.	77.	129.	137.
1250	75.	74.	75.	129.	138.
1600	77.	77.	77.	130.	139.
2000	75.	75.	75.	129.	136.
2500	75.	74.	75.	127.	136.
3150	76.	75.	75.	126.	132.
4000	79.	79.	79.	122.	134.
5000	75.	75.	76.	121.	129.
6300	71.	73.	72.	119.	125.
8000	68.	71.	70.	117.	121.
10000	65.	66.	66.	113.	117.
12500	61.	63.	64.	112.	115.
16000	58.	59.	61.	110.	113.
20000	54.	53.	55.	110.	112.
OCTAVE FREQ					
63	70.	70.	72.	136.	140.
125	74.	74.	75.	140.	144.
250	76.	77.	77.	139.	146.
500	82.	83.	83.	143.	143.
1000	81.	81.	82.	134.	143.
2000	81.	80.	81.	134.	142.
4000	82.	82.	82.	128.	137.
8000	73.	76.	75.	122.	127.
16000	63.	65.	66.	116.	118.

CONFIGURATION 8
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 67
POWER SETTING 25
READING NO. 285

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	63.	65.	66.	133.	149.
63	67.	69.	68.	131.	148.
80	66.	66.	66.	134.	149.
100	70.	70.	70.	138.	153.
125	68.	68.	70.	134.	150.
160	69.	71.	70.	137.	151.
200	72.	73.	71.	137.	153.
250	70.	71.	73.	137.	153.
315	72.	72.	73.	136.	152.
400	79.	78.	76.	141.	151.
500	77.	78.	80.	137.	151.
630	78.	78.	80.	131.	151.
800	80.	80.	80.	132.	152.
1000	79.	78.	80.	132.	150.
1250	77.	77.	77.	131.	150.
1600	82.	82.	82.	132.	152.
2000	77.	78.	79.	131.	151.
2500	76.	77.	78.	130.	148.
3150	78.	77.	78.	128.	144.
4000	80.	81.	82.	125.	146.
5000	79.	79.	80.	123.	143.
6300	75.	75.	75.	122.	139.
8000	71.	73.	73.	119.	134.
10000	68.	68.	69.	115.	130.
12500	63.	64.	66.	113.	127.
16000	60.	60.	63.	109.	123.
20000	54.	54.	57.	108.	121.
OCTAVE FREQ					
63	70.	72.	72.	138.	153.
125	74.	75.	75.	141.	156.
250	76.	77.	77.	141.	157.
500	83.	83.	84.	143.	156.
1000	84.	83.	84.	136.	156.
2000	84.	84.	85.	136.	155.
4000	84.	84.	85.	131.	149.
8000	77.	78.	78.	124.	141.
16000	65.	66.	68.	115.	129.

CONFIGURATION 8
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 67
POWER SETTING 40
READING NO. 256

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	63.	63.	65.	132.	139.
63	69.	69.	69.	133.	139.
80	66.	65.	66.	136.	140.
100	77.	77.	79.	144.	148.
125	68.	68.	72.	135.	141.
160	70.	71.	71.	140.	142.
200	73.	73.	72.	136.	143.
250	71.	73.	73.	137.	145.
315	74.	72.	73.	137.	144.
400	78.	78.	76.	142.	143.
500	77.	79.	81.	141.	143.
630	79.	80.	81.	133.	143.
800	82.	81.	81.	134.	144.
1000	80.	80.	81.	134.	142.
1250	78.	79.	79.	133.	142.
1600	81.	82.	82.	133.	143.
2000	80.	81.	81.	133.	144.
2500	77.	78.	79.	132.	141.
3150	79.	79.	80.	130.	137.
4000	82.	81.	82.	127.	137.
5000	81.	81.	82.	124.	136.
6300	77.	77.	77.	124.	132.
8000	73.	75.	75.	121.	127.
10000	70.	71.	72.	117.	122.
12500	65.	67.	68.	115.	119.
16000	62.	64.	66.	111.	115.
20000	56.	57.	60.	109.	112.
OCTAVE FREQ					
63	71.	71.	72.	139.	144.
125	78.	78.	80.	146.	150.
250	78.	77.	77.	141.	149.
500	83.	84.	85.	145.	148.
1000	85.	85.	85.	138.	148.
2000	84.	85.	86.	137.	148.
4000	86.	85.	86.	132.	141.
8000	79.	80.	80.	126.	134.
16000	67.	69.	71.	117.	121.

CONFIGURATION 8
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 67
POWER SETTING 75
READING NO. 258

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	66.	68.	67.	136.	141.
63	69.	75.	73.	135.	140.
80	66.	65.	66.	136.	141.
100	75.	74.	78.	144.	148.
125	77.	75.	77.	137.	143.
160	73.	75.	76.	143.	144.
200	75.	75.	76.	142.	147.
250	75.	75.	78.	140.	146.
315	79.	78.	80.	138.	145.
400	81.	80.	80.	142.	146.
500	78.	78.	80.	142.	144.
630	82.	82.	82.	135.	145.
800	83.	82.	83.	137.	146.
1000	81.	81.	82.	137.	144.
1250	80.	82.	82.	135.	144.
1600	84.	85.	84.	135.	145.
2000	87.	87.	86.	135.	148.
2500	90.	84.	81.	134.	142.
3150	81.	80.	81.	131.	139.
4000	82.	82.	82.	129.	139.
5000	82.	82.	82.	125.	138.
6300	79.	80.	79.	127.	135.
8000	75.	78.	79.	121.	130.
10000	73.	77.	77.	118.	125.
12500	69.	75.	74.	115.	122.
16000	66.	70.	70.	111.	116.
20000	60.	64.	64.	108.	112.
OCTAVE FREQ					
63	72.	76.	75.	140.	145.
125	80.	79.	82.	147.	150.
250	82.	81.	83.	145.	151.
500	85.	85.	86.	145.	150.
1000	86.	86.	87.	141.	150.
2000	92.	90.	89.	139.	150.
4000	86.	86.	86.	134.	143.
8000	81.	83.	83.	128.	137.
16000	71.	76.	76.	117.	123.

CONFIGURATION 9
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 83
POWER SETTING 10
READING NO. 275

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	62.	62.	65.	131.	134.
63	66.	67.	70.	130.	136.
80	64.	65.	64.	132.	136.
100	101.	97.	73.	136.	140.
125	67.	66.	69.	132.	138.
160	69.	69.	70.	137.	139.
200	69.	69.	69.	138.	143.
250	67.	68.	70.	133.	140.
315	71.	72.	72.	137.	140.
400	76.	74.	74.	138.	139.
500	7[illegible]	75.	76.	132.	139.
630	77.	75.	76.	129.	139.
800	77.	77.	78.	129.	139.
1000	75.	76.	77.	129.	138.
1250	75.	75.	75.	129.	137.
1600	77.	78.	78.	130.	138.
2000	74.	74.	75.	128.	137.
2500	74.	74.	75.	127.	135.
3150	75.	74.	74.	126.	131.
4000	78.	78.	79.	122.	133.
5000	75.	75.	76.	121.	129.
6300	72.	73.	72.	119.	125.
8000	69.	70.	69.	117.	122.
10000	66.	67.	65.	113.	117.
12500	61.	62.	63.	112.	116.
16000	57.	59.	60.	111.	114.
20000	54.	53.	55.	110.	113.

OCTAVE FREQ	1	2	3	4	5
63	69.	70.	72.	136.	140.
125	101.	97.	76.	140.	144.
250	74.	75.	75.	141.	146.
500	81.	79.	80.	139.	144.
1000	81.	81.	82.	134.	143.
2000	80.	81.	81.	133.	142.
4000	81.	81.	82.	128.	136.
8000	74.	75.	74.	122.	127.
16000	63.	64.	65.	116.	119.

CONFIGURATION 10
VAR GEOM CONST DIA SWIRL DCME 0/0 CPEN DZ = 100
POWER SETTING 10
READING NO. 278

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	62.	62.	63.	129.	137.
63	67.	68.	67.	128.	135.
80	65.	65.	66.	130.	137.
100	71.	70.	71.	133.	139.
125	67.	66.	68.	131.	138.
160	69.	69.	69.	138.	140.
200	70.	70.	70.	136.	141.
250	68.	72.	72.	132.	140.
315	71.	71.	73.	136.	141.
400	77.	76.	74.	137.	137.
500	75.	77.	78.	133.	139.
630	77.	77.	79.	129.	139.
800	77.	77.	78.	129.	139.
1000	75.	76.	77.	129.	138.
1250	74.	75.	75.	129.	139.
1600	79.	79.	79.	130.	139.
2000	74.	74.	75.	129.	137.
2500	74.	74.	75.	127.	136.
3150	74.	74.	74.	126.	132.
4000	78.	79.	78.	122.	133.
5000	75.	77.	75.	121.	129.
6300	72.	73.	72.	118.	124.
8000	70.	70.	70.	116.	122.
10000	66.	67.	66.	113.	117.
12500	61.	62.	64.	112.	116.
16000	58.	58.	60.	110.	114.
20000	54.	53.	55.	110.	113.
OCTAVE FREQ					
63	70.	70.	70.	134.	141.
125	74.	73.	74.	140.	144.
250	75.	76.	77.	140.	145.
500	81.	81.	82.	139.	143.
1000	80.	81.	82.	134.	143.
2000	81.	81.	82.	134.	142.
4000	81.	82.	81.	128.	136.
8000	75.	75.	75.	121.	127.
16000	63.	64.	66.	116.	119.

CONFIGURATION 11
VAR GEOM EXT LENGTH VAR GEOM O/O OPEN DZ = 0
POWER SETTING 40
READING NO. 345

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	65.	68.	67.	136.	141.
63	71.	75.	74.	133.	141.
80	65.	67.	67.	138.	142.
100	68.	68.	70.	140.	143.
125	75.	72.	74.	139.	146.
160	73.	74.	73.	144.	148.
200	75.	76.	74.	142.	149.
250	77.	76.	78.	143.	149.
315	79.	80.	81.	144.	151.
400	80.	82.	81.	144.	149.
500	81.	81.	82.	142.	149.
630	83.	83.	84.	134.	149.
800	83.	83.	84.	138.	150.
1000	82.	83.	84.	143.	147.
1250	81.	81.	82.	135.	145.
1600	81.	83.	83.	134.	145.
2000	80.	82.	83.	133.	145.
2500	81.	86.	83.	132.	142.
3150	81.	83.	82.	131.	139.
4000	80.	82.	83.	128.	138.
5000	78.	82.	82.	125.	137.
6300	77.	81.	82.	125.	133.
8000	76.	80.	80.	121.	128.
10000	76.	78.	78.	118.	123.
12500	73.	75.	74.	115.	123.
16000	70.	70.	71.	110.	122.
20000	64.	64.	64.	109.	122.
OCTAVE FREQ					
63	73.	76.	75.	141.	146.
125	78.	77.	77.	146.	151.
250	82.	83.	83.	148.	155.
500	86.	87.	87.	146.	154.
1000	87.	87.	88.	145.	153.
2000	85.	89.	88.	138.	149.
4000	85.	87.	87.	133.	143.
8000	81.	85.	85.	127.	135.
16000	75.	76.	76.	117.	127.

CONFIGURATION 11
VAR GEOM EXT LENGTH VAR GECM 0/0 CPEN DZ = 0
POWER SETTING 55
READING NO. 349

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	77.	75.	70.	136.	141.
63	78.	77.	78.	136.	142.
80	74.	73.	70.	139.	144.
100	75.	75.	73.	142.	146.
125	76.	74.	74.	140.	147.
160	75.	76.	75.	144.	148.
200	77.	77.	77.	142.	151.
250	77.	77.	78.	144.	150.
315	79.	80.	81.	144.	151.
400	81.	82.	80.	145.	150.
500	83.	84.	83.	143.	149.
630	84.	83.	85.	135.	150.
800	84.	84.	84.	138.	150.
1000	84.	85.	85.	144.	147.
1250	81.	81.	83.	136.	146.
1600	83.	83.	84.	134.	146.
2000	83.	83.	84.	134.	145.
2500	82.	86.	84.	133.	143.
3150	82.	83.	82.	131.	141.
4000	81.	83.	83.	128.	138.
5000	81.	83.	84.	125.	137.
6300	81.	83.	84.	126.	134.
8000	81.	83.	83.	121.	129.
10000	80.	82.	81.	118.	125.
12500	76.	78.	79.	115.	124.
16000	72.	74.	76.	111.	122.
20000	6[illegible].	67.	69.	109.	121.
OCTAVE FREQ					
63	81.	80.	79.	142.	147.
125	80.	80.	79.	147.	152.
250	83.	83.	84.	148.	155.
500	88.	88.	88.	147.	154.
1000	88.	88.	89.	145.	153.
2000	87.	89.	89.	138.	150.
4000	86.	88.	88.	133.	144.
8000	85.	87.	88.	128.	136.
16000	78.	80.	81.	117.	127.

CONFIGURATION 11
VAR GFOM EXT LENGTH VAR GECM 0/0 OPEN DZ = 0
POWER SETTING 75
READING NO. 353

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	71.	71.	77.	139.	142.
63	78.	77.	86.	137.	142.
80	68.	69.	73.	140.	145.
100	71.	72.	74.	143.	148.
125	78.	77.	77.	141.	148.
160	75.	75.	78.	144.	149.
200	77.	77.	81.	144.	152.
250	78.	78.	78.	145.	150.
315	80.	80.	80.	144.	151.
400	79.	80.	80.	145.	151.
500	83.	81.	81.	145.	150.
630	84.	84.	83.	135.	150.
800	83.	83.	84.	137.	150.
1000	84.	85.	84.	144.	149.
1250	82.	82.	83.	138.	147.
1600	83.	84.	85.	135.	147.
2000	83.	85.	85.	135.	147.
2500	87.	86.	84.	134.	144.
3150	84.	87.	86.	132.	142.
4000	83.	89.	88.	130.	141.
5000	82.	87.	89.	126.	138.
6300	82.	86.	89.	128.	137.
8000	82.	86.	87.	122.	131.
10000	80.	84.	88.	118.	126.
12500	79.	84.	89.	115.	125.
16000	76.	81.	85.	111.	123.
20000	72.	73.	80.	109.	122.
OCTAVE FREQ					
63	79.	78.	87.	144.	148.
125	80.	80.	81.	148.	153.
250	83.	83.	85.	149.	156.
500	87.	87.	86.	148.	155.
1000	88.	88.	8[illegible].	146.	154.
2000	90.	90.	89.	139.	151.
4000	88.	93.	93.	135.	145.
8000	86.	90.	93.	129.	138.
16000	81.	86.	91.	117.	128.

CONFIGURATION 11
VAR GEOM EXT LENGTH VAR GEOM O/O OPEN DZ = 0
POWER SETTING 100
READING NO. 355

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.		78.	140.	144.
63	78.		86.	139.	144.
80	70.		73.	142.	145.
100	103.		77.	162.	148.
125	78.		78.	144.	149.
160	75.		79.	144.	150.
200	77.		81.	146.	153.
250	77.		78.	145.	151.
315	80.		81.	144.	152.
400	79.		80.	143.	151.
500	81.		82.	147.	150.
630	83.		84.	136.	151.
800	84.		86.	137.	150.
1000	87.		86.	146.	150.
1250	84.		86.	140.	148.
1600	84.		86.	136.	148.
2000	86.		87.	136.	148.
2500	86.		87.	135.	146.
3150	87.		89.	132.	144.
4000	87.		92.	131.	142.
5000	86.		94.	129.	141.
6300	86.		93.	129.	141.
8000	86.		91.	123.	134.
10000	84.		92.	119.	129.
12500	82.		92.	120.	127.
16000	80.		89.	118.	123.
20000	77.		85.	118.	122.

OCTAVE FREQ	1	2	3	4	5
63	79.		87.	145.	149.
125	103.		83.	162.	154.
250	83.		85.	150.	157.
500	86.		87.	149.	155.
1000	90.		91.	147.	154.
2000	90.		91.	140.	152.
4000	91.		97.	136.	147.
8000	90.		97.	130.	142.
16000	85.		94.	124.	129.

CONFIGURATION 11
VAR GEOM EXT LENGTH VAR GEOM O/O OPEN DZ = 0
POWER SETTING 40R
READING NO. 365

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.	71.	71.	133.	138.
63	78.	79.	80.	133.	140.
80	69.	70.	71.	134.	142.
100	70.	71.	73.	138.	144.
125	75.	74.	77.	138.	144.
160	75.	74.	75.	140.	145.
200	76.	76.	76.	142.	147.
250	77.	76.	76.	139.	147.
315	79.	79.	81.	138.	148.
400	79.	80.	80.	141.	147.
500	80.	82.	82.	141.	148.
630	84.	84.	84.	136.	149.
800	83.	84.	84.	141.	150.
1000	83.	85.	83.	140.	147.
1250	82.	83.	84.	137.	145.
1600	83.	84.	84.	136.	147.
2000	82.	85.	84.	136.	146.
2500	83.	86.	85.	136.	144.
3150	84.	86.	85.	135.	142.
4000	83.	85.	86.	134.	139.
5000	80.	84.	86.	130.	139.
6300	80.	83.	86.	128.	134.
8000	79.	83.	84.	124.	130.
10000	79.	81.	85.	123.	124.
12500	78.	80.	86.	118.	124.
16000	75.	78.	83.	115.	122.
20000	71.	71.	77.	110.	121.
OCTAVE FREQ					
63	79.	80.	81.	138.	145.
125	79.	78.	80.	144.	149.
250	82.	82.	83.	145.	152.
500	86.	87.	87.	145.	153.
1000	87.	89.	88.	144.	153.
2000	87.	90.	89.	141.	151.
4000	87.	90.	90.	138.	145.
8000	84.	87.	90.	130.	136.
16000	80.	82.	88.	120.	127.

CONFIGURATION 11
VAR GEOM EXT LENGTH VAR GEOM 0/0 OPEN DZ = 0
POWER SETTING 55R
READING NO. 259

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.	70.	72.	135.	139.
63	76.	79.	81.	135.	141.
80	70.	71.	71.	135.	142.
100	69.	72.	73.	139.	144.
125	76.	76.	77.	139.	146.
160	74.	74.	75.	140.	146.
200	76.	76.	76.	144.	149.
250	77.	75.	77.	140.	149.
315	79.	80.	82.	139.	149.
400	79.	81.	80.	141.	148.
500	81.	82.	82.	142.	148.
630	84.	84.	84.	138.	150.
800	83.	84.	84.	140.	151.
1000	83.	85.	84.	140.	148.
1250	83.	83.	83.	138.	146.
1600	83.	84.	84.	137.	146.
2000	82.	86.	85.	137.	145.
2500	83.	90.	85.	137.	144.
3150	84.	87.	86.	136.	143.
4000	84.	87.	86.	136.	140.
5000	81.	86.	87.	131.	139.
6300	80.	84.	87.	130.	138.
8000	80.	84.	84.	125.	132.
10000	79.	82.	85.	124.	126.
12500	78.	81.	85.	119.	125.
16000	76.	78.	83.	116.	123.
20000	71.	72.	77.	110.	122.
OCTAVE FREQ					
63	78.	80.	82.	140.	146.
125	79.	79.	80.	144.	150.
250	82.	82.	84.	146.	154.
500	87.	87.	87.	145.	154.
1000	88.	89.	88.	144.	154.
2000	87.	92.	89.	142.	150.
4000	88.	91.	91.	140.	146.
8000	84.	88.	90.	132.	139.
16000	81.	83.	88.	121.	128.

CONFIGURATION 11
VAR GEOM EXT LENGTH VAR GEOM 0/0 OPEN DZ = 0
POWER SETTING 75R
READING NO. 357

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	76.	68.	135.	140.
63	77.	85.	77.	135.	141.
80	69.	72.	63.	137.	142.
100	70.	73.	64.	140.	146.
125	77.	76.	68.	141.	146.
160	74.	77.	68.	140.	147.
200	76.	79.	70.	145.	149.
250	78.	77.	69.	140.	149.
315	79.	80.	71.	140.	150.
400	79.	81.	70.	142.	150.
500	80.	81.	72.	143.	148.
630	83.	85.	74.	139.	150.
800	83.	84.	74.	139.	151.
1000	84.	85.	75.	140.	149.
1250	83.	83.	73.	139.	147.
1600	83.	85.	75.	137.	147.
2000	83.	86.	75.	137.	147.
2500	84.	87.	76.	137.	144.
3150	86.	89.	76.	136.	143.
4000	86.	90.	78.	136.	141.
5000	83.	89.	78.	132.	139.
6300	82.	86.	78.	129.	138.
8000	82.	86.	77.	125.	132.
10000	80.	85.	78.	125.	127.
12500	80.	85.	78.	119.	125.
16000	79.	84.	76.	115.	122.
20000	75.	77.	72.	110.	122.
OCTAVE FREQ					
63	78.	86.	78.	141.	146.
125	79.	80.	72.	145.	151.
250	83.	84.	75.	147.	154.
500	86.	88.	77.	146.	154.
1000	88.	89.	79.	144.	154.
2000	88.	91.	80.	142.	151.
4000	90.	94.	82.	140.	146.
8000	86.	90.	82.	132.	139.
16000	83.	88.	81.	121.	128.

CONFIGURATION 12
VAR GEOM EXT LENGTH VAR GECM O/O CPEN DZ = 20
POWER SETTING 25
READING NO. 339

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	62.	63.	64.	135.	139.
63	69.	68.	69.	135.	139.
80	67.	67.	68.	138.	141.
100	69.	70.	71.	140.	142.
125	68.	68.	70.	139.	145.
160	70.	71.	71.	143.	146.
200	73.	73.	71.	142.	146.
250	71.	71.	73.	143.	147.
315	74.	74.	76.	143.	148.
400	78.	78.	76.	144.	145.
500	77.	79.	80.	140.	145.
630	81.	81.	81.	131.	146.
800	81.	81.	81.	134.	146.
1000	78.	79.	80.	138.	143.
1250	77.	77.	77.	132.	143.
1600	78.	79.	79.	132.	143.
2000	77.	79.	79.	132.	142.
2500	77.	79.	78.	130.	140.
3150	77.	80.	79.	129.	137.
4000	77.	80.	81.	125.	136.
5000	75.	80.	81.	123.	134.
6300	75.	79.	80.	123.	129.
8000	74.	78.	78.	119.	125.
10000	74.	75.	77.	116.	120.
12500	70.	72.	74.	114.	117.
16000	67.	68.	71.	111.	115.
20000	62.	61.	65.	110.	113.
OCTAVE FREQ					
63	72.	71.	72.	141.	145.
125	74.	75.	75.	146.	149.
250	78.	78.	79.	147.	152.
500	84.	84.	84.	146.	150.
1000	84.	84.	84.	140.	149.
2000	82.	84.	83.	136.	147.
4000	81.	85.	85.	131.	141.
8000	79.	82.	83.	125.	131.
16000	72.	74.	76.	117.	120.

CONFIGURATION 12
VAR GEOM EXT LENGTH VAR GEOM 0/0 OPEN DZ = 20
POWER SETTING 40
READING NO. 341

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	63.		70.	136.	140.
63	70.		78.	135.	139.
80	66.		69.	140.	143.
100	69.		72.	142.	145.
125	76.		75.	140.	146.
160	74.		74.	144.	147.
200	76.		76.	142.	148.
250	76.		78.	144.	148.
315	79.		82.	145.	150.
400	79.		81.	145.	147.
500	79.		82.	143.	147.
630	83.		84.	135.	147.
800	82.		83.	137.	147.
1000	81.		82.	141.	145.
1250	80.		80.	135.	145.
1600	80.		81.	135.	145.
2000	80.		82.	135.	144.
2500	80.		81.	133.	142.
3150	80.		81.	131.	140.
4000	79.		82.	129.	138.
5000	78.		83.	126.	137.
6300	77.		83.	125.	132.
8000	76.		80.	122.	127.
10000	75.		79.	118.	122.
12500	72.		76.	115.	118.
16000	68.		73.	111.	116.
20000	65.		68.	110.	113.

OCTAVE FREQ	1	2	3	4	5
63	72.		79.	142.	146.
125	79.		79.	147.	151.
250	82.		84.	149.	154.
500	86.		87.	147.	152.
1000	86.		87.	143.	151.
2000	85.		86.	139.	149.
4000	84.		87.	134.	143.
8000	81.		86.	127.	134.
16000	74.		78.	117.	121.

CONFIGURATION 12
VAR GECM EXT LENGTH VAR GECM O/O OPEN DZ = 20
POWER SETTING 55
READING NO. 347

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	75.	69.	70.	138.	143.
63	81.	77.	79.	136.	143.
80	78.	69.	70.	139.	144.
100	80.	71.	73.	143.	147.
125	85.	72.	75.	141.	147.
160	84.	74.	75.	144.	148.
200	85.	76.	77.	143.	151.
250	87.	77.	78.	143.	149.
315	90.	80.	81.	144.	151.
400	89.	81.	80.	145.	150.
500	92.	83.	83.	144.	148.
630	93.	83.	83.	134.	149.
800	92.	83.	83.	136.	149.
1000	92.	83.	83.	142.	147.
1250	91.	81.	82.	135.	146.
1600	92.	84.	83.	135.	147.
2000	91.	83.	83.	134.	146.
2500	92.	85.	82.	133.	144.
3150	91.	83.	82.	131.	141.
4000	90.	83.	83.	129.	140.
5000	89.	83.	84.	125.	138.
6300	89.	84.	84.	126.	135.
8000	90.	85.	83.	121.	129.
10000	88.	82.	81.	118.	125.
12500	86.	80.	79.	115.	124.
16000	82.	76.	77.	111.	122.
20000	77.	68.	70.	109.	122.

OCTAVE FREQ	1	2	3	4	5
63	83.	78.	80.	143.	148.
125	88.	77.	79.	148.	152.
250	93.	83.	84.	148.	155.
500	96.	87.	87.	148.	154.
1000	96.	87.	87.	144.	152.
2000	96.	89.	87.	139.	151.
4000	95.	88.	88.	134.	145.
8000	94.	89.	88.	128.	136.
16000	88.	82.	81.	117.	128.

CONFIGURATION 12
VAR GEOM EXT LENGTH VAR GEOM O/O OPEN DZ = 20
POWER SETTING 75
READING NO. 351

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	71.	71.	71.	139.	145.
63	80.	80.	79.	138.	143.
80	68.	69.	69.	142.	146.
100	71.	71.	73.	144.	148.
125	78.	76.	76.	142.	148.
160	75.	76.	74.	145.	149.
200	77.	77.	76.	145.	151.
250	77.	77.	77.	144.	150.
315	80.	80.	79.	144.	151.
400	78.	80.	80.	145.	150.
500	82.	81.	80.	146.	149.
630	82.	83.	82.	135.	150.
800	82.	82.	83.	136.	150.
1000	83.	85.	83.	141.	148.
1250	81.	82.	83.	136.	148.
1600	82.	84.	84.	135.	147.
2000	83.	85.	84.	135.	147.
2500	83.	86.	85.	134.	145.
3150	85.	89.	86.	132.	143.
4000	84.	90.	88.	130.	141.
5000	83.	89.	89.	126.	139.
6300	82.	87.	88.	128.	137.
8000	83.	86.	86.	122.	132.
10000	81.	84.	86.	118.	127.
12500	79.	84.	87.	116.	125.
16000	77.	81.	83.	111.	122.
20000	72.	74.	77.	109.	122.
OCTAVE FREQ					
63	81.	81.	80.	145.	150.
125	80.	80.	79.	149.	153.
250	83.	83.	82.	149.	155.
500	86.	86.	86.	149.	154.
1000	87.	88.	88.	143.	154.
2000	87.	90.	89.	139.	151.
4000	89.	94.	93.	135.	146.
8000	87.	91.	92.	129.	139.
16000	82.	86.	89.	118.	128.

CONFIGURATION 12
VAR GEOM EXT LENGTH VAR GECM 0/0 CPEN DZ = 20
POWER SETTING 40R
READING NO. 363

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.	71.	72.	134.	138.
63	78.	80.	81.	134.	141.
80	69.	70.	70.	135.	142.
100	69.	71.	72.	139.	144.
125	75.	75.	78.	139.	145.
160	74.	74.	75.	139.	146.
200	76.	76.	76.	143.	147.
250	76.	75.	77.	139.	147.
315	79.	80.	81.	139.	149.
400	79.	81.	80.	142.	147.
500	79.	83.	82.	142.	148.
630	83.	83.	84.	136.	149.
800	83.	84.	84.	139.	149.
1000	82.	84.	83.	138.	147.
1250	81.	83.	82.	137.	146.
1600	82.	84.	84.	136.	146.
2000	82.	86.	84.	137.	146.
2500	86.	90.	84.	136.	143.
3150	83.	86.	84.	135.	142.
4000	83.	86.	85.	135.	139.
5000	80.	84.	86.	131.	138.
6300	80.	83.	86.	129.	135.
8000	79.	82.	84.	124.	130.
10000	79.	81.	86.	124.	125.
12500	77.	81.	86.	119.	124.
16000	75.	78.	83.	116.	123.
20000	70.	71.	77.	111.	122.

OCTAVE FREQ	1	2	3	4	5
63	79.	81.	82.	139.	145.
125	78.	78.	80.	144.	150.
250	82.	82.	83.	146.	153.
500	86.	87.	87.	146.	153.
1000	87.	88.	88.	143.	152.
2000	89.	92.	89.	141.	150.
4000	87.	90.	90.	139.	145.
8000	84.	87.	90.	131.	137.
16000	80.	83.	88.	121.	128.

CONFIGURATION 12
VAR GEOM EXT LENGTH VAR GEOM U/O OPEN DZ = 20
POWER SETTING 55R
READING NO. 361

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	70.	72.	136.	140.
63	78.	78.	80.	135.	142.
80	69.	71.	70.	136.	142.
100	71.	72.	73.	139.	143.
125	76.	75.	78.	140.	145.
160	74.	75.	74.	140.	147.
200	76.	77.	75.	145.	149.
250	78.	77.	77.	140.	148.
315	79.	80.	81.	140.	149.
400	79.	80.	80.	142.	149.
500	80.	82.	82.	143.	148.
630	84.	84.	84.	138.	149.
800	83.	83.	84.	139.	150.
1000	83.	84.	83.	139.	148.
1250	83.	83.	83.	138.	147.
1600	82.	84.	84.	136.	148.
2000	82.	86.	84.	137.	147.
2500	82.	89.	84.	137.	145.
3150	85.	87.	85.	136.	143.
4000	85.	87.	86.	136.	141.
5000	81.	85.	86.	131.	139.
6300	80.	84.	86.	130.	137.
8000	80.	84.	85.	125.	133.
10000	80.	82.	85.	125.	126.
12500	78.	81.	86.	120.	125.
16000	76.	79.	83.	116.	123.
20000	72.	72.	76.	111.	122.
OCTAVE FREQ					
63	79.	79.	81.	140.	146.
125	79.	79.	80.	144.	150.
250	83.	83.	83.	147.	153.
500	86.	87.	87.	146.	153.
1000	88.	88.	88.	143.	153.
2000	87.	92.	89.	141.	152.
4000	89.	91.	90.	140.	146.
8000	85.	88.	90.	132.	139.
16000	81.	83.	88.	122.	128.

CONFIGURATION 13
VAR GEOM EXT LENGTH VAR GEOM O/O OPEN DZ = 40
POWER SETTING 10
READING NO. 333

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	66.	68.	66.	135.	138.
63	69.	68.	68.	133.	139.
80	66.	67.	67.	139.	141.
100	70.	69.	70.	139.	142.
125	71.	70.	71.	137.	144.
160	70.	72.	73.	142.	144.
200	72.	73.	72.	142.	144.
250	76.	76.	76.	140.	144.
315	76.	78.	78.	139.	144.
400	78.	79.	76.	141.	141.
500	75.	79.	79.	134.	142.
630	79.	79.	81.	129.	141.
800	79.	79.	79.	131.	142.
1000	76.	77.	77.	132.	140.
1250	74.	75.	75.	130.	141.
1600	75.	76.	76.	130.	141.
2000	74.	75.	75.	129.	140.
2500	74.	75.	74.	128.	137.
3150	75.	76.	76.	126.	133.
4000	76.	78.	78.	122.	133.
5000	73.	77.	77.	122.	130.
6300	72.	77.	75.	120.	125.
8000	70.	75.	72.	117.	121.
10000	67.	70.	71.	114.	117.
12500	64.	67.	69.	112.	115.
16000	62.	64.	67.	110.	113.
20000	57.	57.	60.	110.	112.
OCTAVE FREQ					
63	72.	72.	72.	141.	144.
125	75.	75.	76.	145.	148.
250	80.	81.	81.	145.	149.
500	82.	84.	84.	142.	146.
1000	82.	82.	82.	136.	146.
2000	79.	80.	80.	134.	144.
4000	80.	82.	82.	129.	137.
8000	75.	80.	78.	122.	127.
16000	67.	69.	71.	116.	118.

CONFIGURATION 13
VAR GEOM EXT LENGTH VAR GEOM C/O OPEN DZ = 40
POWER SETTING 25
READING NO. 335

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	62.	63.	65.	137.	140.
63	68.	68.	69.	135.	140.
80	65.	67.	68.	138.	141.
100	68.	69.	71.	141.	143.
125	68.	68.	71.	139.	145.
160	71.	71.	71.	145.	145.
200	72.	71.	70.	143.	146.
250	72.	72.	73.	142.	146.
315	74.	73.	76.	142.	147.
400	75.	77.	75.	143.	144.
500	76.	80.	80.	139.	144.
630	80.	79.	81.	130.	144.
800	80.	80.	80.	132.	144.
1000	77.	78.	78.	135.	142.
1250	76.	76.	77.	132.	143.
1600	77.	78.	79.	132.	142.
2000	76.	77.	78.	131.	141.
2500	76.	78.	77.	130.	140.
3150	77.	79.	78.	129.	137.
4000	77.	79.	80.	125.	136.
5000	75.	79.	80.	123.	133.
6300	75.	79.	78.	123.	129.
8000	74.	79.	77.	119.	125.
10000	73.	74.	74.	116.	120.
12500	70.	71.	73.	114.	117.
16000	67.	67.	70.	110.	114.
20000	62.	61.	63.	109.	112.
OCTAVE FREQ					
63	70.	71.	72.	142.	145.
125	74.	74.	76.	147.	149.
250	78.	77.	78.	147.	151.
500	82.	84.	84.	145.	149.
1000	83.	83.	83.	138.	148.
2000	81.	82.	83.	136.	146.
4000	81.	84.	84.	131.	140.
8000	79.	83.	81.	125.	131.
16000	72.	73.	75.	116.	120.

CONFIGURATION 13
VAR GEOM EXT LENGTH VAR GEOM O/O OPEN DZ = 40
POWER SETTING 40
READING NO. 343

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	67.		70.	139.	142.
63	69.		77.	138.	141.
80	67.		69.	140.	144.
100	70.		72.	144.	144.
125	75.		74.	141.	147.
160	73.		75.	145.	147.
200	75.		76.	143.	147.
250	76.		78.	144.	147.
315	78.		80.	143.	148.
400	78.		80.	144.	146.
500	78.		81.	141.	145.
630	82.		83.	133.	146.
800	80.		81.	133.	146.
1000	80.		81.	137.	144.
1250	78.		79.	133.	144.
1600	79.		81.	133.	144.
2000	79.		81.	133.	143.
2500	79.		81.	132.	142.
3150	79.		80.	130.	139.
4000	79.		82.	127.	137.
5000	77.		83.	125.	135.
6300	77.		81.	125.	131.
8000	77.		79.	121.	126.
10000	75.		77.	117.	122.
12500	73.		75.	114.	118.
16000	69.		72.	111.	115.
20000	64.		66.	109.	112.
OCTAVE FREQ					
63	73.		78.	144.	147.
125	78.		79.	148.	151.
250	81.		83.	148.	152.
500	85.		86.	146.	150.
1000	84.		85.	140.	150.
2000	84.		86.	137.	148.
4000	83.		87.	133.	142.
8000	81.		84.	127.	133.
16000	75.		77.	117.	120.

CONFIGURATION 13
VAR GEOM EXT LENGTH VAR GEOM O/O OPEN DZ = 40
POWER SETTING 40R
READING NO. 367

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	70.	72.	136.	140.
63	77.	77.	81.	137.	139.
80	69.	70.	70.	137.	141.
100	70.	72.	72.	141.	144.
125	76.	75.	77.	141.	146.
160	74.	74.	75.	141.	146.
200	76.	76.	76.	145.	147.
250	77.	76.	77.	141.	147.
315	79.	79.	81.	140.	147.
400	80.	81.	80.	141.	146.
500	79.	81.	82.	142.	146.
630	83.	83.	84.	136.	146.
800	81.	82.	82.	136.	146.
1000	81.	82.	81.	136.	144.
1250	80.	81.	82.	136.	145
1600	82.	83.	84.	135.	145.
2000	82.	84.	84.	136.	144.
2500	84.	86.	85.	136.	143.
3150	84.	86.	85.	135.	140.
4000	83.	86.	86.	134.	138.
5000	80.	84.	87.	130.	137.
6300	79.	83.	87.	129.	132.
8000	80.	83.	85.	123.	128.
10000	79.	82.	86.	123.	122.
12500	78.	81.	87.	119.	119.
16000	76.	78.	85.	115.	116.
20000	72.	72.	79.	110.	112.
OCTAVE FREQ					
63	78.	78.	82.	141.	145.
125	79.	79.	80.	146.	150.
250	82.	82.	83.	147.	152.
500	86.	87.	87.	145.	151.
1000	85.	86.	86.	141.	150.
2000	88.	89.	89.	140.	149.
4000	87.	90.	91.	138.	143.
8000	84.	87.	91.	131.	134.
16000	81.	83.	90.	121.	121.

CONFIGURATION 14
VAR GEOM EXT LENGTH VAR GEOM 0/0 OPEN DZ = 60
POWER SETTING 10
READING NO. 331

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	67.	67.	67.	136.	141.
63	69.	68.	70.	135.	141.
80	67.	68.	69.	140.	142.
100	69.	70.	72.	141.	143.
125	70.	70.	71.	139.	144.
160	71.	72.	73.	145.	145.
200	72.	74.	73.	140.	143.
250	77.	76.	76.	138.	142.
315	77.	78.	77.	138.	143.
400	77.	80.	77.	140.	141.
500	75.	79.	79.	133.	141.
630	78.	78.	80.	128.	140.
800	78.	78.	79.	130.	141.
1000	76.	77.	76.	131.	140.
1250	74.	75.	75.	129.	140.
1600	75.	75.	75.	130.	141.
2000	75.	74.	75.	129.	140.
2500	74.	75.	74.	128.	137.
3150	74.	76.	75.	126.	133.
4000	76.	78.	79.	122.	133.
5000	73.	77.	77.	122.	130.
6300	72.	76.	75.	121.	125.
8000	70.	74.	73.	117.	122.
10000	67.	70.	71.	114.	116.
12500	64.	66.	69.	112.	115.
16000	62.	64.	67.	110.	113.
20000	57.	57.	61.	109.	112.
OCTAVE FREQ					
63	73.	72.	74.	142.	146.
125	75.	76.	77.	147.	149.
250	81.	81.	80.	144.	147.
500	82.	84.	84.	141.	145.
1000	81.	82.	82.	135.	145.
2000	79.	79.	79.	134.	144.
4000	79.	82.	82.	129.	137.
8000	75.	79.	78.	123.	127.
16000	67.	68.	72.	115.	118.

CONFIGURATION 14
VAR GEOM EXT LENGTH VAR GEOM O/O OPEN DZ = 60
POWER SETTING 25
READING NO. 337

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	62.	63.	63.	138.	141.
63	68.	68.	68.	137.	141.
80	65.	67.	68.	142.	143.
100	67.	69.	71.	143.	143.
125	68.	68.	70.	141.	146.
160	71.	71.	71.	146.	145.
200	72.	71.	70.	143.	145.
250	72.	72.	72.	142.	145.
315	73.	74.	75.	142.	145.
400	75.	77.	75.	142.	142.
500	76.	79.	80.	138.	143.
630	79.	79.	80.	131.	143.
800	78.	78.	79.	131.	144.
1000	76.	77.	77.	134.	142.
1250	76.	76.	77.	132.	143.
1600	77.	78.	79.	132.	143.
2000	76.	78.	78.	131.	141.
2500	76.	78.	78.	130.	140.
3150	77.	79.	78.	129.	137.
4000	77.	79.	81.	126.	136.
5000	75.	80.	82.	124.	133.
6300	75.	79.	81.	123.	129.
8000	74.	79.	77.	120.	125.
10000	71.	75.	75.	116.	120.
12500	69.	73.	75.	114.	117.
16000	66.	69.	71.	111.	114.
20000	61.	62.	63.	109.	112.
OCTAVE FREQ					
63	70.	71.	72.	144.	147.
125	74.	74.	75.	149.	150.
250	77.	77.	78.	147.	150.
500	82.	83.	84.	144.	147.
1000	82.	82.	83.	137.	148.
2000	81.	83.	83.	136.	146.
4000	81.	84.	85.	132.	140.
8000	78.	83.	83.	125.	131.
16000	71.	75.	77.	117.	120.

CONFIGURATION 15
VAR GEOM EXT LENGTH VAR GEOM 0/0 OPEN DZ = 80
POWER SETTING 10
READING NO. 329

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	68.	68.	139.	141.
63	70.	67.	68.	136.	141.
80	67.	68.	69.	141.	143.
100	69.	70.	72.	142.	143.
125	70.	69.	71.	140.	145.
160	71.	72.	73.	144.	144.
200	73.	74.	73.	139.	142.
250	77.	76.	76.	137.	142.
315	76.	78.	77.	138.	143.
400	78.	81.	77.	140.	140.
500	76.	79.	78.	133.	141.
630	78.	77.	78.	129.	140.
800	78.	77.	78.	129.	141.
1000	75.	76.	76.	131.	140.
1250	74.	74.	75.	129.	140.
1600	74.	75.	75.	130.	140.
2000	74.	74.	75.	129.	138.
2500	74.	74.	75.	128.	137.
3150	74.	75.	75.	126.	134.
4000	77.	78.	78.	123.	134.
5000	73.	77.	77.	122.	130.
6300	73.	77.	75.	120.	125.
8000	70.	75.	72.	117.	122.
10000	67.	71.	70.	114.	117.
12500	64.	68.	68.	112.	115.
16000	61.	65.	66.	109.	114.
20000	56.	57.	60.	109.	112.
OCTAVE FREQ					
63	73.	72.	73.	144.	147.
125	75.	75.	77.	147.	149.
250	80.	81.	80.	143.	147.
500	82.	84.	82.	141.	145.
1000	81.	81.	81.	135.	145.
2000	79.	79.	80.	134.	143.
4000	80.	82.	82.	129.	138.
8000	75.	80.	78.	122.	127.
16000	66.	70.	71.	115.	119.

CONFIGURATION 16
VAR GEOM EXT LENGTH VAR GEOM 0/0 OPEN DZ = 100
POWER SETTING 10
READING NO. 327

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	67.	67.	67.	138.	140.
63	69.	67.	69.	137.	141.
80	66.	66.	68.	141.	143.
100	68.	69.	71.	142.	144.
125	70.	69.	70.	139.	145.
160	70.	72.	73.	144.	144.
200	71.	72.	72.	139.	142.
250	76.	76.	76.	137.	142.
315	76.	78.	77.	138.	142.
400	76.	79.	76.	139.	140.
500	76.	78.	78.	132.	140.
630	77.	77.	78.	127.	140.
800	78.	77.	78.	129.	141.
1000	75.	75.	76.	131.	139.
1250	74.	74.	75.	129.	140.
1600	74.	75.	75.	130.	140.
2000	73.	74.	75.	129.	138.
2500	73.	75.	75.	128.	136.
3150	74.	76.	75.	126.	133.
4000	76.	79.	79.	122.	133.
5000	73.	78.	78.	122.	130.
6300	73.	78.	76.	121.	126.
8000	70.	75.	72.	116.	121.
10000	67.	72.	71.	113.	117.
12500	63.	68.	69.	111.	115.
16000	61.	64.	67.	109.	113.
20000	55.	57.	60.	109.	111.
OCTAVE FREQ					
63	72.	71.	73.	144.	146.
125	74.	75.	76.	147.	149.
250	80.	81.	80.	143.	147.
500	81.	83.	82.	140.	145.
1000	81.	80.	81.	135.	145.
2000	78.	79.	80.	134.	143.
4000	79.	83.	82.	129.	137.
8000	75.	80.	78.	123.	128.
16000	66.	70.	71.	115.	118.

CONFIGURATION 17
VAR GEOM EXT LENGTH VAR GEOM WELDED CLOSED DZ
POWER SETTING 40
READING NO. 369

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	68.	68.	69.	136.	139.
63	75.	76.	77.	133.	141.
80	67.	67.	68.	137.	142.
100	69.	70.	71.	139.	144.
125	75.	71.	74.	137.	146.
160	74.	74.	75.	142.	148.
200	77.	75.	75.	140.	150.
250	75.	76.	77.	141.	151.
315	79.	78.	80.	142.	151.
400	79.	80.	80.	141.	150.
500	81.	80.	81.	137.	150.
630	85.	83.	85.	135.	150.
800	85.	85.	86.	140.	152.
1000	84.	84.	84.	143.	147.
1250	82.	82.	83.	135.	146.
1600	82.	83.	83.	133.	146.
2000	82.	83.	83.	133.	145.
2500	84.	85.	86.	132.	143.
3150	87.	86.	84.	131.	141.
4000	88.	87.	85.	127.	139.
5000	85.	85.	87.	124.	138.
6300	82.	84.	85.	124.	133.
8000	80.	82.	83.	120.	129.
10000	79.	83.	82.	116.	124.
12500	78.	81.	81.	113.	124.
16000	75.	77.	78.	110.	122.
20000	72.	71.	73.	108.	121.
OCTAVE FREQ					
63	76.	77.	78.	140.	146.
125	78.	77.	78.	145.	151.
250	82.	81.	83.	146.	155.
500	87.	86.	87.	143.	155.
1000	89.	89.	89.	145.	154.
2000	88.	89.	89.	137.	150.
4000	92.	91.	90.	133.	144.
8000	85.	88.	88.	126.	135.
16000	80.	83.	83.	116.	127.

CONFIGURATION 17
VAR GEOM EXT LENGTH VAR GECM WELDEC CLCSED DZ
POWER SETTING 40
REACING NO. 371

	MICROPHCNE POSITICN				
1/3 OCT FREQ	1	2	3	4	5
50	68.	69.	70.	136.	139.
63	77.	78.	80.	134.	140.
80	68.	69.	70.	137.	142.
100	70.	71.	74.	140.	144.
125	75.	72.	76.	138.	146.
160	74.	74.	75.	143.	148.
200	77.	74.	76.	140.	150.
250	75.	77.	78.	141.	151.
315	79.	78.	81.	142.	151.
400	80.	79.	79.	141.	149.
500	81.	81.	81.	137.	149.
630	86.	85.	86.	136.	150.
800	84.	86.	86.	139.	152.
1000	84.	84.	85.	144.	148.
1250	83.	83.	83.	135.	145.
1600	83.	83.	84.	134.	146.
2000	82.	83.	83.	133.	145.
2500	84.	86.	84.	132.	143.
3150	88.	87.	85.	130.	142.
4000	88.	88.	85.	127.	139.
5000	86.	86.	87.	124.	139.
6300	84.	85.	86.	124.	135.
8000	81.	82.	84.	120.	129.
10000	80.	83.	82.	117.	124.
12500	78.	82.	82.	113.	123.
16000	76.	77.	79.	110.	122.
20000	72.	72.	75.	108.	121.
OCTAVE FREQ					
63	78.	79.	81.	141.	145.
125	78.	77.	80.	146.	151.
250	82.	81.	84.	146.	155.
500	88.	87.	88.	143.	154.
1000	88.	89.	90.	146.	154.
2000	88.	89.	88.	138.	150.
4000	92.	92.	91.	132.	145.
8000	87.	88.	89.	126.	136.
16000	81.	84.	84.	116.	127.

CONFIGURATION 17
VAR GEOM EXT LENGTH VAR GEOM WELDED CLOSED DZ
POWER SETTING 55
READING NO. 373

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	71.	71.	77.	135.	141.
63	77.	78.	87.	135.	142.
80	67.	67.	72.	138.	143.
100	70.	69.	73.	140.	146.
125	75.	75.	78.	139.	146.
160	75.	75.	78.	143.	148.
200	77.	75.	80.	141.	150.
250	79.	78.	80.	142.	150.
315	81.	80.	82.	142.	152.
400	80.	81.	81.	141.	151.
500	83.	84.	83.	139.	150.
630	86.	85.	86.	137.	152.
800	86.	86.	88.	140.	153.
1000	85.	85.	86.	145.	150.
1250	85.	85.	85.	137.	147.
1600	86.	87.	87.	135.	147.
2000	85.	86.	85.	134.	146.
2500	86.	88.	85.	133.	144.
3150	88.	88.	87.	132.	142.
4000	89.	89.	87.	129.	141.
5000	87.	88.	90.	125.	139.
6300	84.	86.	88.	126.	135.
8000	81.	85.	88.	121.	131.
10000	81.	85.	88.	118.	125.
12500	80.	84.	88.	115.	124.
16000	77.	79.	85.	111.	122.
20000	75.	73.	80.	109.	121.

OCTAVE FREQ					
63	78.	79.	88.	141.	147.
125	79.	79.	82.	146.	152.
250	84.	83.	86.	146.	156.
500	88.	88.	89.	144.	156.
1000	90.	90.	91.	147.	155.
2000	90.	92.	91.	139.	151.
4000	93.	93.	93.	134.	146.
8000	87.	90.	93.	128.	137.
16000	83.	85.	90.	117.	127.

CONFIGURATION 17
VAR GEOM EXT LENGTH VAR GEOM WELDED CLOSED CZ
POWER SETTING 75
READING NO. 375

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	77.	77.	77.	138.	142.
63	86.	85.	86.	136.	141.
80	73.	73.	73.	138.	144.
100	73.	74.	75.	142.	148.
125	79.	77.	79.	140.	148.
160	78.	78.	79.	143.	148.
200	80.	79.	81.	142.	151.
250	80.	78.	80.	142.	151.
315	82.	81.	82.	143.	152
400	81.	81.	81.	142.	151.
500	84.	81.	84.	140.	150.
630	87.	85.	87.	137.	152.
800	87.	89.	89.	140.	152.
1000	87.	88.	88.	146.	151.
1250	87.	86.	86.	139.	148
1600	86.	87.	87.	136.	148.
2000	85.	86.	85.	135.	147.
2500	85.	89.	85.	134.	145.
3150	89.	90.	88.	132.	144.
4000	90.	91.	90.	130.	142.
5000	89.	90.	92.	125.	140.
6300	88.	89.	92.	128.	138.
8000	86.	87.	90.	122.	133.
10000	85.	89.	91.	119.	127.
12500	85.	90.	92.	115.	125.
16000	82.	83.	89.	111.	123.
20000	78.	78.	81.	108.	122.
OCTAVE FREQ					
63	87.	86.	87.	142.	147.
125	82.	81.	83.	147.	153.
250	86.	84.	86.	147.	157.
500	89.	88.	89.	145.	156.
1000	92.	93.	93.	148.	155.
2000	90.	92.	91.	140.	152.
4000	94.	95.	95.	135.	147.
8000	91.	93.	96.	129.	139.
16000	87.	91.	94.	117.	128.

CONFIGURATION 17
VAR GEOM EXT LENGTH VAR GEOM WELDED CLOSED CZ
POWER SETTING 100
READING NO. 377

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	76.	76.	78.	138.	142.
63	85.	85.	87.	137.	144.
80	72.	73.	73.	140.	144.
100	74.	76.	76.	157.	147.
125	79.	79.	80.	140.	148.
160	78.	78.	78.	143.	150.
200	81.	79.	81.	145.	152.
250	79.	78.	80.	143.	152.
315	81.	80.	80.	142.	152.
400	81.	80.	80.	141.	152.
500	83.	82.	83.	142.	150.
630	85.	85.	85.	137.	152.
800	87.	88.	88.	139.	152.
1000	88.	89.	87.	148.	152.
1250	88.	87.	87.	141.	149.
1600	88.	89.	91.	136.	148.
2000	87.	88.	88.	136.	147.
2500	87.	92.	89.	135.	146.
3150	90.	90.	89.	132.	145.
4000	93.	92.	91.	131.	143.
5000	92.	91.	94.	127.	141.
6300	92.	92.	95.	127.	139.
8000	92.	91.	94.	121.	134.
10000	89.	91.	94.	118.	128.
12500	88.	90.	93.	115.	127.
16000	86.	86.	91.	111.	123.
20000	81.	79.	86.	109.	122.
OCTAVE FREQ					
63	86.	86.	88.	143.	148.
125	82.	83.	83.	157.	153.
250	85.	84.	85.	148.	157.
500	88.	88.	88.	145.	156.
1000	92.	93.	92.	149.	156.
2000	92.	95.	94.	140.	152.
4000	97.	96.	97.	135.	148.
8000	96.	96.	99.	128.	140.
16000	91.	92.	96.	117.	129.

CONFIGURATION 17
VAR GEOM EXT LENGTH VAR GEOM WELDED CLOSED DZ
POWER SETTING 40R
READING NO. 379

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	71.	70.	72.	131.	138.
63	79.	78.	80.	132.	142.
80	69.	70.	71.	133.	141.
100	71.	72.	73.	137.	143.
125	76.	77.	79.	136.	144.
160	74.	74.	75.	138.	146.
200	76.	74.	75.	142.	147.
250	75.	75.	76.	136.	147.
315	79.	78.	80.	137.	148.
400	79.	80.	79.	138.	147.
500	80.	80.	80.	140.	148.
630	85.	86.	85.	138.	150.
800	86.	86.	87.	142.	152.
1000	84.	84.	85.	139.	148.
1250	84.	84.	84.	137.	147.
1600	85.	86.	87.	136.	147.
2000	84.	85.	85.	136.	147.
2500	84.	89.	85.	136.	144.
3150	86.	86.	85.	135.	143.
4000	87.	87.	85.	135.	141.
5000	86.	88.	87.	130.	139.
6300	85.	88.	89.	129.	136.
8000	82.	86.	89.	123.	132.
10000	81.	86.	85.	123.	126.
12500	79.	84.	84.	119.	124.
16000	76.	78.	81.	115.	123.
20000	72.	72.	77.	110.	122.
OCTAVE FREQ					
63	80.	79.	81.	137.	145.
125	79.	80.	81.	142.	149.
250	82.	81.	82.	144.	152.
500	87.	88.	87.	144.	153.
1000	90.	90.	90.	145.	154.
2000	89.	92.	91.	141.	151.
4000	91.	92.	91.	139.	146.
8000	88.	92.	93.	131.	138.
16000	81.	85.	86.	121.	128.

CONFIGURATION 17
VAR GEOM EXT LENGTH VAR GEOM WELDED CLOSED DZ
POWER SETTING 55R
READING NO. 381

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	71.	76.	78.	134.	139.
63	78.	85.	87.	133.	142.
80	69.	72.	73.	134.	142.
100	71.	72.	74.	136.	144.
125	77.	78.	80.	137.	145.
160	74.	77.	78.	140.	146.
200	75.	79.	80.	144.	148.
250	76.	76.	78.	137.	148.
315	79.	79.	81.	137.	149.
400	80.	80.	81.	138.	148.
500	80.	80.	81.	141.	149.
630	84.	85.	86.	138.	151.
800	85.	85.	86.	142.	153.
1000	84.	85.	85.	141.	150.
1250	84.	84.	85.	139.	148.
1600	84.	85.	86.	137.	148.
2000	84.	85.	86.	137.	148.
2500	85.	88.	86.	136.	145.
3150	89.	86.	87.	136.	144.
4000	90.	88.	88.	135.	142.
5000	90.	88.	89.	131.	140.
6300	89.	89.	92.	129.	138.
8000	86.	86.	91.	124.	133.
10000	83.	87.	91.	124.	127.
12500	83.	85.	90.	119.	125.
16000	80.	81.	86.	116.	123.
20000	76.	75.	81.	111.	122.
OCTAVE FREQ					
63	79.	86.	88.	138.	146.
125	79.	81.	83.	143.	150.
250	82.	83.	85.	145.	153.
500	87.	87.	88.	144.	154.
1000	89.	89.	90.	146.	156.
2000	89.	91.	91.	141.	152.
4000	94.	92.	93.	139.	147.
8000	91.	92.	96.	131.	139.
16000	85.	87.	92.	121.	128.

CONFIGURATION 17
VAR GEOM EXT LENGTH VAR GEOM WELDED CLCSED DZ
POWER SETTING 75R
READING NO. 383

1/3 OCT FREQ	MICROPHCNE PCSITICN 1	2	3	4	5
50	77.	76.	78.	134.	139.
63	85.	85.	87.	134.	141.
80	72.	73.	74.	136.	143.
100	72.	74.	75.	138.	145.
125	77.	78.	80.	138.	145.
160	77.	77.	78.	140.	147.
200	79.	78.	80.	144.	149.
250	77.	76.	79.	139.	149.
315	80.	79.	81.	138.	150.
400	80.	80.	80.	140.	149.
500	82.	81.	82.	141.	149.
630	85.	86.	86.	139.	151.
800	85.	87.	87.	141.	152.
1000	85.	87.	87.	142.	151.
1250	85.	85.	84.	140.	148.
1600	84.	85.	85.	137.	149.
2000	85.	87.	87.	137.	148.
2500	87.	90.	86.	137.	146.
3150	90.	89.	88.	137.	144.
4000	92.	91.	90.	135.	142.
5000	92.	91.	93.	131.	140.
6300	91.	90.	96.	128.	140.
8000	90.	89.	94.	125.	133.
10000	87.	89.	95.	124.	128.
12500	86.	89.	94.	119.	125.
16000	84.	84.	90.	116.	123.
20000	80.	78.	85.	110.	122.

OCTAVE FREQ	1	2	3	4	5
63	86.	86.	88.	140.	146.
125	81.	81.	83.	144.	151.
250	84.	83.	85.	146.	154.
500	88.	88.	88.	145.	155.
1000	90.	91.	91.	146.	155.
2000	90.	93.	91.	142.	153.
4000	96.	95.	96.	140.	147.
8000	94.	94.	100.	131.	141.
16000	89.	90.	96.	121.	128.

CONFIGURATION 17
VAR GEOM EXT LENGTH VAR GEOM WELDEC CLOSED DZ
POWER SETTING 100R
READING NO. 365

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	77.	76.	78.	135.	142.
63	86.	85.	87.	135.	142.
80	72.	73.	74.	135.	143.
100	73.	74.	75.	139.	146.
125	78.	78.	80.	140.	147.
160	77.	77.	78.	140.	147.
200	79.	79.	80.	146.	149.
250	78.	77.	79.	140.	150.
315	81.	80.	82.	139.	151.
400	83.	83.	83.	140.	150.
500	81.	81.	82.	142.	150.
630	84.	85.	85.	140.	151.
800	85.	86.	86.	140.	152.
1000	86.	89.	89.	143.	153.
1250	87.	87.	86.	141.	150.
1600	85.	87.	86.	138.	150.
2000	86.	88.	88.	138.	149.
2500	88.	91.	88.	138.	147.
3150	91.	92.	89.	138.	146.
4000	94.	96.	92.	137.	144.
5000	92.	97.	95.	133.	142.
6300	92.	98.	96.	129.	143.
8000	91.	96.	95.	127.	136.
10000	91.	95.	96.	126.	130.
12500	89.	93.	96.	120.	127.
16000	87.	89.	94.	117.	124.
20000	83.	83.	87.	111.	122.
OCTAVE FREQ					
63	87.	86.	88.	140.	147.
125	81.	81.	83.	144.	151.
250	84.	84.	85.	148.	155.
500	88.	88.	88.	146.	155.
1000	91.	92.	92.	146.	157.
2000	91.	94.	92.	143.	154.
4000	97.	100.	97.	141.	149.
8000	96.	101.	100.	132.	144.
16000	92.	95.	98.	122.	130.

CONFIGURATION 18
EARLY QUENCH
POWER SETTING 25
READING NO. 398

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	66.	66.	68.	138.	142.
63	74.	73.	75.	136.	142.
80	65.	66.	69.	141.	143.
100	84.	91.	95.	156.	154.
125	69.	70.	71.	142.	147.
160	73.	74.	72.	148.	148.
200	75.	73.	74.	144.	147.
250	72.	72.	73.	142.	145.
315	75.	75.	76.	141.	145.
400	75.	76.	76.	142.	143.
500	79.	80.	80.	138.	143.
630	79.	80.	81.	132.	142.
800	79.	80.	80.	133.	143.
1000	79.	80.	80.	136.	142.
1250	78.	79.	79.	132.	141.
1600	79.	82.	81.	132.	142.
2000	79.	83.	81.	132.	141.
2500	82.	86.	81.	131.	139.
3150	86.	89.	86.	129.	136.
4000	86.	91.	89.	126.	136.
5000	86.	90.	90.	124.	135.
6300	89.	90.	90.	123.	129.
8000	87.	88.	90.	120.	125.
10000	86.	87.	89.	116.	121.
12500	84.	85.	87.	113.	117.
16000	81.	82.	85.	109.	113.
20000	75.	76.	80.	107.	110.
OCTAVE FREQ					
63	75.	74.	77.	144.	147.
125	84.	91.	95.	157.	156.
250	79.	78.	79.	147.	151.
500	83.	84.	84.	144.	147.
1000	83.	84.	84.	139.	147.
2000	85.	89.	86.	136.	146.
4000	91.	95.	93.	132.	140.
8000	92.	93.	94.	125.	131.
16000	86.	87.	90.	115.	119.

CONFIGURATION 18
EARLY QUENCH
POWER SETTING 40
READING NO. 386

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	77.	75.	76.	141.	142.
63	86.	84.	86.	139.	144.
80	71.	71.	73.	143.	146.
100	72.	72.	75.	146.	148.
125	77.	75.	76.	144.	149.
160	77.	77.	79.	149.	149.
200	80.	79.	80.	147.	150.
250	79.	78.	79.	145.	148.
315	80.	81.	81.	144.	147.
400	80.	82.	79.	144.	145.
500	81.	81.	80.	141.	145.
630	82.	83.	83.	133.	146.
800	82.	82.	83.	134.	146.
1000	82.	83.	83.	137.	144.
1250	81.	83.	82.	133.	144.
1600	83.	84.	84.	133.	144.
2000	83.	86.	84.	133.	143.
2500	85.	88.	86.	133.	142.
3150	88.	90.	89.	132.	138.
4000	89.	92.	92.	129.	138.
5000	89.	93.	95.	125.	137.
6300	92.	92.	95.	126.	133.
8000	91.	89.	94.	123.	130.
10000	89.	89.	93.	119.	125.
12500	87.	86.	93.	119.	124.
16000	84.	84.	90.	118.	121.
20000	81.	78.	84.	118.	120.
OCTAVE FREQ					
63	87.	85.	87.	146.	149.
125	81.	80.	82.	152.	153.
250	84.	84.	85.	150.	153.
500	86.	87.	86.	146.	150.
1000	86.	87.	87.	140.	150.
2000	89.	91.	90.	138.	148.
4000	93.	97.	97.	134.	142.
8000	96.	95.	99.	128.	135.
16000	89.	89.	95.	123.	127.

CONFIGURATION 18
EARLY QUENCH
POWER SETTING 40
READING NO. 396

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	75.	74.	76.	141.	143.
63	84.	84.	85.	138.	144.
80	71.	70.	72.	143.	146.
100	85.	91.	97.	157.	157.
125	76.	75.	76.	143.	149.
160	77.	77.	78.	149.	150.
200	80.	79.	80.	147.	150.
250	77.	77.	77.	145.	148.
315	81.	80.	81.	143.	148.
400	80.	81.	80.	144.	146.
500	80.	81.	82.	141.	146.
630	82.	83.	83.	133.	146.
800	81.	82.	82.	134.	146.
1000	82.	83.	83.	138.	144.
1250	91.	86.	86.	134.	144.
1600	92.	91.	90.	134.	144.
2000	83.	85.	83.	134.	143.
2500	88.	87.	84.	133.	142.
3150	88.	90.	88.	132.	139.
4000	88.	93.	92.	129.	138.
5000	88.	93.	93.	125.	137.
6300	91.	92.	91.	125.	133.
8000	89.	90.	91.	123.	129.
10000	89.	89.	92.	118.	124.
12500	87.	87.	92.	115.	123.
16000	84.	84.	89.	110.	121.
20000	79.	78.	83.	108.	120.
OCTAVE FREQ					
63	85.	85.	86.	146.	149.
125	86.	91.	97.	158.	158.
250	84.	84.	84.	150.	154.
500	86.	87.	87.	146.	151.
1000	92.	89.	89.	141.	150.
2000	94.	93.	92.	138.	148.
4000	93.	97.	96.	134.	143.
8000	95.	95.	96.	128.	135.
16000	89.	89.	94.	117.	126.

CONFIGURATION 18
EARLY QUENCH
POWER SETTING 55
READING NO. 394

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	75.	75.	77.	143.	145.
63	84.	84.	86.	140.	145.
80	70.	71.	73.	144.	146.
100	86.	89.	92.	160.	156.
125	77.	77.	78.	144.	149.
160	78.	78.	79.	148.	150.
200	80.	79.	81.	148.	151.
250	79.	79.	79.	146.	148.
315	81.	81.	81.	144.	148.
400	80.	81.	80.	145.	146.
500	81.	81.	81.	143.	146.
630	82.	83.	83.	134.	146.
800	82.	82.	83.	135.	146.
1000	82.	83.	84.	139.	145.
1250	82.	83.	84.	135.	145.
1600	83.	85.	85.	134.	144.
2000	84.	87.	86.	135.	143.
2500	88.	89.	86.	133.	142.
3150	89.	91.	90.	132.	140.
4000	89.	95.	94.	129.	138.
5000	91.	95.	97.	126.	138.
6300	94.	95.	96.	127.	135.
8000	93.	93.	94.	122.	130.
10000	92.	93.	94.	119.	125.
12500	89.	91.	95.	119.	124.
16000	86.	88.	92.	118.	122.
20000	81.	81.	85.	117.	121.
OCTAVE FREQ					
63	85.	85.	87.	147.	150.
125	87.	90.	92.	160.	158.
250	85.	85.	85.	151.	154.
500	86.	87.	86.	147.	151.
1000	87.	87.	88.	142.	150.
2000	90.	92.	90.	139.	148.
4000	95.	99.	99.	134.	144.
8000	98.	99.	100.	129.	137.
16000	91.	93.	97.	123.	127.

CONFIGURATION 18
EARLY QUENCH
POWER SETTING 55
READING NO. 388

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	75.	74.	77.	142.	144.
63	84.	83.	86.	140.	145.
80	71.	71.	73.	144.	146.
100	72.	73.	75.	148.	148.
125	77.	76.	77.	145.	149.
160	77.	78.	78.	149.	149.
200	80.	80.	81.	149.	151.
250	79.	79.	80.	146.	149.
315	81.	80.	81.	145.	149.
400	80.	82.	80.	145.	147.
500	81.	80.	81.	143.	147.
630	82.	83.	83.	134.	147.
800	82.	82.	83.	135.	147.
1000	82.	83.	84.	139.	145.
1250	82.	83.	83.	135.	145.
1600	83.	85.	84.	134.	145.
2000	83.	87.	86.	134.	144.
2500	87.	88.	86.	133.	143.
3150	89.	90.	91.	132.	140.
4000	90.	93.	94.	129.	138.
5000	91.	94.	98.	126.	138.
6300	94.	94.	97.	127.	135.
8000	94.	92.	95.	122.	130.
10000	93.	92.	96.	119.	125.
12500	89.	89.	96.	119.	124.
16000	87.	86.	94.	118.	122.
20000	82.	80.	88.	118.	121.
OCTAVE FREQ					
63	85.	84.	87.	147.	150.
125	81.	81.	82.	152.	153.
250	[illegible]5.	84.	85.	152.	155.
500	86.	87.	86.	147.	152.
1000	87.	87.	88.	142.	151.
2000	90.	92.	90.	138.	149.
4000	95.	97.	100.	134.	144.
8000	98.	98.	101.	129.	137.
16000	92.	91.	99.	123.	127.

CONFIGURATION 18
EARLY QUENCH
POWER SETTING 75
READING NO. 390

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	75.	75.	77.	143.	144.
63	84.	84.	86.	143.	145.
80	71.	72.	73.	144.	147.
100	73.	74.	76.	150.	151.
125	77.	77.	78.	146.	151.
160	77.	78.	79.	149.	150.
200	80.	80.	81.	150.	151.
250	79.	79.	80.	147.	149.
315	81.	80.	81.	146.	149.
400	80.	81.	80.	146.	148.
500	81.	81.	81.	145.	147.
630	83.	83.	84.	135.	147.
800	83.	84.	85.	136.	147.
1000	83.	85.	86.	140.	146.
1250	83.	85.	86.	136.	145.
1600	85.	86.	87.	135.	146.
2000	86.	89.	88.	135.	145.
2500	89.	91.	88.	134.	144.
3150	90.	92.	91.	132.	141.
4000	90.	94.	94.	130.	140.
5000	92.	95.	97.	126.	138.
6300	95.	94.	97.	128.	138.
8000	95.	93.	95.	123.	131.
10000	95.	92.	96.	119.	127.
12500	93.	90.	97.	120.	125.
16000	91.	87.	96.	118.	123.
20000	85.	81.	89.	118.	121.
OCTAVE FREQ					
63	85.	85.	87.	148.	150.
125	81.	81.	83.	153.	155.
250	85.	84.	85.	153.	155.
500	86.	87.	87.	149.	152.
1000	88.	89.	90.	143.	151.
2000	92.	94.	92.	139.	150.
4000	96.	99.	99.	135.	145.
8000	100.	98.	101.	130.	139.
16000	96.	92.	100.	124.	128.

CONFIGURATION 18
EARLY QUENCH
POWER SETTING 100
READING NO. 392

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	86.	76.	86.	145.	146.
63	86.	85.	95.	143.	145.
80	82.	72.	80.	144.	148.
100	84.	75.	80.	153.	167.
125	83.	78.	80.	148.	151.
160	82.	78.	85.	149.	151.
200	83.	80.	89.	153.	152.
250	83.	79.	82.	149.	150.
315	82.	81.	82.	147.	150.
400	82.	82.	81.	146.	149.
500	82.	82.	83.	147.	148.
630	83.	84.	85.	137.	148.
800	84.	84.	87.	137.	148.
1000	84.	86.	88.	140.	147.
1250	85.	87.	88.	138.	146.
1600	86.	88.	89.	136.	147.
2000	87.	90.	90.	136.	146.
2500	89.	93.	89.	134.	144.
3150	92.	95.	92.	132.	142.
4000	93.	97.	95.	131.	141.
5000	94.	98.	96.	129.	139.
6300	96.	98.	98.	129.	138.
8000	98.	97.	97.	123.	133.
10000	97.	97.	99.	119.	127.
12500	95.	95.	99.	120.	126.
16000	92.	93.	98.	118.	123.
20000	85.	85.	91.	118.	121.
OCTAVE FREQ					
63	90.	86.	96.	149.	151.
125	88.	82.	87.	155.	167.
250	87.	85.	90.	155.	156.
500	87.	88.	88.	150.	153.
1000	89.	91.	92.	143.	152.
2000	92.	96.	94.	140.	151.
4000	98.	102.	99.	136.	146.
8000	102.	102.	103.	130.	139.
16000	97.	97.	102.	124.	129.

CONFIGURATION 19
DELAYED DILUTION
POWER SETTING 10
READING NO. 412

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	67.	71.	0.	136.	137.
63	68.	75.	0.	134.	138.
80	65.	69.	0.	139.	142.
100	84.	89.	0.	153.	154.
125	67.	70.	0.	141.	147.
160	66.	71.	0.	144.	145.
200	67.	72.	0.	140.	145.
250	67.	70.	0.	140.	145.
315	70.	73.	0.	140.	146.
400	71.	74.	0.	138.	142.
500	[illegible]	74.	0.	138.	143.
630	75.	78.	0.	138.	142.
800	72.	76.	0.	137.	142.
1000	73.	76.	0.	131.	140.
1250	73.	78.	0.	130.	141.
1600	73.	76.	0.	130.	140.
2000	73.	77.	0.	131.	139.
2500	72.	79.	0.	131.	138.
3150	76.	81.	0.	132.	135.
4000	76.	82.	0.	130.	135.
5000	75.	81.	0.	125.	132.
6300	74.	83.	0.	123.	128.
8000	76.	83.	0.	121.	124.
10000	73.	81.	0.	117.	120.
12500	72.	78.	0.	114.	117.
16000	70.	76.	0.	111.	114.
20000	65.	69.	0.	109.	112.
OCTAVE FREQ					
63	72.	77.	0.	142.	144.
125	84.	89.	0.	154.	155.
250	73.	77.	0.	145.	150.
500	78.	81.	0.	143.	147.
1000	77.	82.	0.	139.	146.
2000	77.	82.	0.	135.	144.
4000	80.	86.	0.	135.	139.
8000	79.	87.	0.	126.	130.
16000	75.	80.	0.	117.	120.

CONFIGURATION 19
DELAYED DILUTION
POWER SETTING 25
READING NO. 413

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	73.	73.	0.	137.	141.
63	77.	76.	0.	135.	139.
80	70.	71.	0.	139.	142.
100	91.	92.	0.	154.	155.
125	71.	71.	0.	143.	149.
160	71.	72.	0.	145.	146.
200	73.	74.	0.	143.	147.
250	71.	71.	0.	143.	147.
315	74.	75.	0.	142.	147.
400	76.	75.	0.	141.	144.
500	79.	76.	0.	140.	144.
630	78.	79.	0.	140.	144.
800	78.	78.	0.	140.	144.
1000	78.	79.	0.	133.	142.
1250	76.	79.	0.	132.	143.
1600	78.	78.	0.	132.	142.
2000	78.	80.	0.	132.	141.
2500	78.	81.	0.	133.	140.
3150	80.	83.	0.	134.	137.
4000	81.	83.	0.	132.	137.
5000	79.	83.	0.	126.	134.
6300	79.	83.	0.	125.	130.
8000	78.	82.	0.	124.	127.
10000	79.	84.	0.	119.	123.
12500	78.	82.	0.	116.	120.
16000	77.	79.	0.	111.	116.
20000	72.	73.	0.	109.	112.
OCTAVE FREQ					
63	79.	79.	0.	142.	146.
125	91.	92.	0.	155.	156.
250	78.	78.	0.	147.	152.
500	83.	82.	0.	145.	149.
1000	82.	83.	0.	141.	148.
2000	83.	85.	0.	137.	146.
4000	85.	88.	0.	137.	141.
8000	83.	88.	0.	128.	132.
16000	81.	84.	0.	118.	122.

CONFIGURATION 19
DELAYED DILUTION
POWER SETTING 40
READING NO. 414

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	68.	70.	0.	140.	153.
63	76.	78.	0.	138.	150.
80	69.	70.	0.	140.	154.
100	92.	94.	0.	157.	166.
125	76.	72.	0.	145.	159.
160	73.	74.	0.	145.	156.
200	74.	75.	0.	144.	157.
250	75.	75.	0.	144.	157.
315	79.	80.	0.	143.	158.
400	79.	80.	0.	142.	155.
500	78.	80.	0.	141.	155.
630	82.	83.	0.	142.	155.
800	81.	81.	0.	141.	154.
1000	80.	82.	0.	135.	153.
1250	79.	82.	0.	133.	153.
1600	81.	81.	0.	133.	153.
2000	81.	82.	0.	134.	153.
2500	83.	86.	0.	134.	151.
3150	82.	85.	0.	135.	148.
4000	83.	87.	0.	133.	147.
5000	82.	87.	0.	127.	145.
6300	81.	88.	0.	126.	142.
8000	81.	87.	0.	125.	138.
10000	81.	87.	0.	120.	133.
12500	81.	87.	0.	117.	131.
16000	78.	82.	0.	112.	127.
20000	74.	75.	0.	109.	122.

OCTAVE FREQ	1	2	3	4	5
63	77.	79.	0.	144.	157.
125	92.	94.	0.	158.	167.
250	81.	82.	0.	148.	162.
500	85.	86.	0.	146.	160.
1000	85.	86.	0.	142.	158.
2000	87.	88.	0.	138.	157.
4000	87.	91.	0.	138.	152.
8000	86.	92.	0.	129.	144.
16000	83.	88.	0.	119.	133.

CONFIGURATION 19
CELAYED DILUTION
POWER SETTING 55
READING NO. 415

	MICROPHCNE PCSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	69.	0.	141.	143.
63	76.	77.	0.	140.	144.
80	70.	70.	0.	142.	146.
100	95.	96.	0.	157.	159.
125	76.	73.	0.	145.	151.
160	74.	74.	0.	145.	149.
200	76.	77.	0.	147.	149.
250	77.	76.	0.	144.	149.
315	79.	80.	0.	142.	149.
400	79.	80.	0.	142.	147.
500	80.	81.	0.	142.	146.
630	81.	82.	0.	143.	146.
800	81.	82.	0.	142.	146.
1000	81.	82.	0.	136.	144.
1250	80.	83.	0.	134.	145.
1600	82.	83.	0.	134.	145.
2000	84.	85.	0.	134.	144.
2500	88.	85.	0.	134.	143.
3150	84.	87.	0.	135.	140.
4000	85.	89.	0.	134.	139.
5000	84.	89.	0.	128.	137.
6300	83.	89.	0.	128.	134.
8000	84.	87.	0.	125.	130.
10000	82.	86.	0.	120.	126.
12500	83.	87.	0.	117.	125.
16000	81.	84.	0.	113.	123.
20000	77.	77.	0.	109.	121.
OCTAVE FREQ					
63	77.	78.	0.	146.	149.
125	95.	96.	0.	158.	160.
250	82.	83.	0.	150.	154.
500	85.	86.	0.	147.	151.
1000	85.	87.	0.	143.	150.
2000	90.	89.	0.	139.	149.
4000	89.	93.	0.	138.	144.
8000	88.	92.	0.	130.	136.
16000	86.	89.	0.	119.	128.

CONFIGURATION 19
DELAYED DILUTION
POWER SETTING 75
READING NO. 416

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	70.	0.	145.	147.
63	77.	78.	0.	143.	145.
80	69.	69.	0.	144.	147.
100	92.	92.	0.	161.	162.
125	78.	75.	0.	147.	151.
160	74.	75.	0.	145.	150.
200	76.	77.	0.	149.	150.
250	77.	76.	0.	144.	149.
315	79.	79.	0.	144.	150.
400	79.	80.	0.	142.	148.
500	80.	79.	0.	142.	147.
630	82.	83.	0.	144.	147.
800	81.	82.	0.	143.	148.
1000	81.	83.	0.	138.	145.
1250	81.	83.	0.	135.	145.
1600	82.	84.	0.	135.	145.
2000	84.	85.	0.	135.	145.
2500	89.	86.	0.	136.	143.
3150	83.	84.	0.	136.	141.
4000	83.	86.	0.	134.	139.
5000	82.	88.	0.	128.	137.
6300	82.	87.	0.	129.	135.
8000	82.	87.	0.	125.	131.
10000	81.	86.	0.	121.	126.
12500	79.	85.	0.	120.	125.
16000	77.	82.	0.	119.	123.
20000	73.	75.	0.	118.	121.

OCTAVE FREQ					
63	78.	79.	0.	149.	151.
125	92.	92.	0.	161.	163.
250	82.	82.	0.	151.	154.
500	85.	86.	0.	148.	152.
1000	86.	87.	0.	145.	151.
2000	91.	90.	0.	140.	149.
4000	87.	91.	0.	139.	144.
8000	86.	91.	0.	131.	137.
16000	82.	87.	0.	124.	128.

CONFIGURATION 19
DELAYED DILUTION
POWER SETTING 100
READING NO. 417

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	72.	76.	0.	148.	149.
63	78.	85.	0.	145.	146.
80	68.	72.	0.	146.	149.
100	91.	93.	0.	163.	168.
125	78.	77.	0.	149.	152.
160	75.	78.	0.	145.	151.
200	77.	80.	0.	149.	151.
250	77.	78.	0.	144.	149.
315	79.	80.	0.	144.	150.
400	80.	81.	0.	143.	149.
500	79.	80.	0.	144.	148.
630	83.	83.	0.	145.	149.
800	84.	84.	0.	144.	148.
1000	83.	84.	0.	139.	147.
1250	82.	85.	0.	136.	147.
1600	84.	85.	0.	135.	147.
2000	84.	86.	0.	136.	146.
2500	87.	87.	0.	136.	145.
3150	85.	87.	0.	136.	143.
4000	86.	88.	0.	135.	141.
5000	86.	89.	0.	129.	139.
6300	84.	90.	0.	130.	138.
8000	83.	89.	0.	125.	133.
10000	83.	88.	0.	121.	129.
12500	81.	87.	0.	121.	127.
16000	78.	83.	0.	119.	124.
20000	74.	77.	0.	118.	121.

OCTAVE FREQ	1	2	3	4	5
63	79.	86.	0.	151.	153.
125	91.	93.	0.	163.	168.
250	83.	84.	0.	151.	155.
500	86.	86.	0.	149.	153.
1000	88.	89.	0.	146.	152.
2000	90.	91.	0.	140.	151.
4000	90.	93.	0.	139.	146.
8000	88.	94.	0.	132.	140.
16000	83.	89.	0.	124.	129.

CONFIGURATION 20
DELAYED ANNULAR DILUTION
POWER SETTING 10
READING NO. 455

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	62.	63.	0.	134.	140.
63	66.	66.	0.	133.	139.
80	63.	67.	0.	138.	142.
100	83.	94.	0.	157.	158.
125	67.	68.	0.	140.	147.
160	69.	70.	0.	143.	145.
200	72.	72.	0.	139.	144.
250	70.	70.	0.	139.	145.
315	72.	73.	0.	140.	145.
400	75.	75.	0.	137.	143.
500	75.	77.	0.	137.	143.
630	78.	77.	0.	137.	142.
800	76.	77.	0.	136.	143.
1000	75.	76.	0.	131.	141.
1250	75.	76.	0.	130.	142.
1600	75.	74.	0.	131.	141.
2000	74.	74.	0.	131.	141.
2500	74.	75.	0.	132.	138.
3150	77.	76.	0.	132.	138.
4000	77.	77.	0.	130.	137.
5000	73.	74.	0.	125.	135.
6300	70.	71.	0.	123.	130.
8000	67.	70.	0.	121.	126.
10000	62.	65.	0.	117.	122.
12500	58.	60.	0.	113.	118.
16000	53.	55.	0.	110.	114.
20000	51.	51.	0.	108.	111.
OCTAVE FREQ					
63	69.	70.	0.	140.	145.
125	83.	94.	0.	157.	159.
250	76.	77.	0.	144.	149.
500	81.	81.	0.	142.	147.
1000	80.	81.	0.	138.	147.
2000	79.	79.	0.	136.	145.
4000	81.	81.	0.	135.	142.
8000	72.	74.	0.	126.	132.
16000	60.	62.	0.	116.	120.

CONFIGURATION 20
DELAYED ANNULAR DILUTION
POWER SETTING 40
READING NO. 457

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	64.	65.	66.	140.	143.
63	68.	68.	70.	137.	143.
80	66.	68.	70.	141.	146.
100	86.	95.	98.	159.	159.
125	70.	70.	72.	144.	150.
160	70.	71.	72.	145.	148.
200	73.	73.	72.	144.	148.
250	73.	72.	74.	141.	147.
315	74.	73.	75.	142.	147.
400	76.	76.	76.	141.	145.
500	76.	79.	77.	139.	146.
630	79.	79.	79.	141.	146.
800	80.	79.	80.	140.	145.
1000	78.	80.	79.	135.	144.
1250	77.	78.	78.	134.	145.
1600	79.	79.	79.	134.	144.
2000	77.	77.	79.	134.	145.
2500	77.	78.	79.	135.	143.
3150	80.	79.	80.	135.	140.
4000	80.	80.	81.	134.	140.
5000	78.	79.	79.	128.	139.
6300	75.	76.	75.	127.	135.
8000	72.	74.	75.	125.	130.
10000	68.	70.	69.	120.	125.
12500	63.	65.	65.	116.	121.
16000	58.	59.	60.	112.	118.
20000	53.	53.	55.	109.	113.
OCTAVE FREQ					
63	71.	72.	74.	144.	149.
125	86.	95.	98.	159.	160.
250	78.	77.	79.	147.	152.
500	82.	83.	82.	145.	150.
1000	83.	84.	84.	142.	149.
2000	83.	83.	84.	139.	149.
4000	84.	84.	85.	138.	144.
8000	77.	79.	79.	130.	137.
16000	65.	66.	67.	118.	123.

CONFIGURATION 2C
DELAYED ANNULAR DILUTION
POWER SETTING 55
READING NO. 458

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	64.	65.	67.	140.	147.
63	68.	71.	74.	141.	144.
80	68.	68.	71.	143.	148.
100	88.	94.	97.	162.	162.
125	76.	74.	78.	146.	151.
160	75.	74.	75.	144.	150.
200	76.	77.	75.	145.	150.
250	76.	77.	78.	142.	148.
315	80.	79.	79.	142.	149.
400	79.	79.	79.	141.	147.
500	79.	80.	80.	140.	147.
630	83.	82.	82.	142.	147.
800	82.	82.	83.	141.	147.
1000	81.	81.	81.	137.	146.
1250	79.	80.	80.	135.	146.
1600	80.	81.	81.	134.	146.
2000	80.	80.	81.	135.	146.
2500	80.	83.	85.	136.	145.
3150	81.	80.	80.	136.	141.
4000	81.	81.	81.	135.	141.
5000	80.	80.	80.	.29.	140.
6300	77.	78.	77.	129.	138.
8000	74.	76.	76.	125.	132.
10000	69.	72.	70.	121.	127.
12500	65.	67.	66.	117.	125.
16000	60.	63.	61.	112.	123.
20000	55.	55.	56.	108.	121.
OCTAVE FREQ					
63	72.	73.	76.	146.	151.
125	88.	94.	97.	162.	163.
250	83.	83.	82.	148.	154.
500	86.	85.	85.	146.	152.
1000	86.	86.	86.	143.	151.
2000	85.	86.	88.	140.	150.
4000	85.	85.	85.	139.	145.
8000	79.	81.	80.	131.	139.
16000	67.	69.	68.	119.	128.

CONFIGURATION 20
DELAYED ANNULAR DILUTION
POWER SETTING 75
READING NO. 459

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	66.	67.	69.	144.	149.
63	71.	71.	75.	143.	147.
80	68.	68.	69.	144.	149.
100	85.	93.	95.	162.	165.
125	78.	77.	80.	147.	152.
160	75.	76.	76.	145.	150.
200	76.	76.	75.	147.	150.
250	76.	76.	78.	142.	149.
315	81.	79.	79.	143.	150.
400	80.	79.	80.	142.	148.
500	79.	79.	79.	141.	148.
630	83.	82.	82.	143.	148.
800	82.	82.	82.	142.	147.
1000	81.	82.	81.	138.	147.
1250	79.	81.	80.	135.	147.
1600	81.	81.	82.	135.	147.
2000	81.	81.	82.	135.	146.
2500	83.	84.	83.	136.	145.
3150	81.	81.	81.	136.	142.
4000	82.	82.	82.	135.	141.
5000	80.	82.	81.	129.	140.
6300	83.	80.	81.	130.	138.
8000	78.	77.	78.	125.	132.
10000	73.	73.	72.	121.	128.
12500	69.	69.	68.	120.	125.
16000	64.	64.	63.	118.	123.
20000	57.	57.	58.	118.	121.
OCTAVE FREQ					
63	74.	74.	77.	148.	153.
125	86.	93.	95.	162.	165.
250	83.	82.	82.	149.	154.
500	86.	85.	85.	147.	153.
1000	86.	86.	86.	144.	152.
2000	87.	87.	87.	140.	151.
4000	86.	86.	86.	139.	146.
8000	85.	82.	83.	132.	139.
16000	70.	70.	70.	124.	128.

CONFIGURATION 21
EX-CELL-O AIR BLAST
POWER SETTING 10
READING NO. 464

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	61.	61.	63.	135.	139.
63	66.	65.	67.	134.	136.
80	68.	66.	68.	139.	140.
100	93.	92.	95.	156.	158.
125	68.	69.	72.	139.	142.
160	72.	71.	75.	143.	145.
200	72.	74.	73.	141.	142.
250	70.	72.	72.	141.	144.
315	77.	75.	74.	140.	142.
400	77.	76.	76.	135.	138.
500	77.	78.	78.	138.	140.
630	78.	78.	78.	138.	141.
800	78.	78.	78.	136.	139.
1000	82.	81.	81.	132.	136.
1250	81.	80.	80.	132.	140.
1600	77.	76.	75.	131.	135.
2000	74.	75.	74.	131.	134.
2500	74.	73.	74.	132.	134.
3150	76.	75.	73.	133.	136.
4000	77.	77.	74.	130.	134.
5000	75.	73.	71.	126.	130.
6300	72.	70.	68.	123.	127.
8000	69.	69.	66.	122.	126.
10000	64.	65.	61.	117.	121.
12500	60.	60.	59.	113.	117.
16000	55.	55.	55.	109.	113.
20000	51.	50.	51.	107.	111.
OCTAVE FREQ					
63	71.	69.	71.	141.	143.
125	93.	92.	95.	156.	158.
250	79.	79.	78.	145.	148.
500	82.	82.	82.	142.	145.
1000	85.	85.	85.	139.	143.
2000	80.	80.	79.	136.	139.
4000	81.	80.	78.	135.	139.
8000	74.	73.	71.	126.	130.
16000	62.	62.	61.	115.	119.

CONFIGURATION 21
EX-CELL-O AIR BLAST
POWER SETTING 25
READING NO. 465

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	62.	67.	63.	139.	141.
63	69.	69.	68.	136.	138.
80	67.	67.	67.	141.	143.
100	93.	92.	94.	160.	158.
125	69.	70.	72.	143.	146.
160	70.	70.	72.	144.	144.
200	71.	72.	71.	142.	145.
250	71.	72.	72.	143.	147.
315	74.	72.	75.	142.	146.
400	77.	74.	75.	138.	142.
500	79.	80.	80.	139.	142.
630	81.	81.	82.	140.	142.
800	80.	78.	80.	138.	142.
1000	84.	83.	85.	133.	148.
1250	90.	86.	89.	134.	156.
1600	80.	79.	80.	133.	140.
2000	81.	82.	87.	133.	139.
2500	77.	78.	80.	134.	142.
3150	78.	76.	79.	134.	135.
4000	80.	78.	78.	132.	135.
5000	78.	76.	75.	127.	134.
6300	75.	72.	71.	125.	127.
8000	73.	70.	70.	123.	124.
10000	67.	65.	65.	119.	120.
12500	63.	61.	62.	115.	116.
16000	59.	57.	58.	110.	114.
20000	53.	51.	54.	108.	111.
OCTAVE FREQ					
63	72.	73.	71.	144.	146.
125	93.	92.	94.	160.	158.
250	77.	77.	78.	147.	151.
500	84.	84.	85.	144.	147.
1000	91.	88.	91.	140.	157.
2000	84.	85.	88.	138.	145.
4000	84.	82.	82.	137.	139.
8000	78.	75.	74.	128.	129.
16000	65.	63.	64.	117.	119.

CONFIGURATION 21
EX-CELL-O AIR BLAST
POWER SETTING 40
READING NO. 466

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	67.	66.	67.	142.	147.
63	75.	74.	73.	141.	145.
80	68.	66.	67.	143.	146.
100	92.	90.	92.	157.	159.
125	74.	74.	75.	144.	148.
160	73.	73.	74.	145.	145.
200	74.	74.	74.	145.	146.
250	75.	76.	77.	145.	147.
315	79.	78.	78.	143.	147.
400	79.	79.	80.	141.	144.
500	78.	81.	80.	140.	144.
630	82.	82.	82.	141.	144.
800	81.	82.	81.	141.	144.
1000	82.	83.	82.	[illegible]	146.
1250	89.	91.	90.	[illegible]	155.
1600	81.	81.	80.	[illegible]	143.
2000	80.	82.	80.	[illegible]	141.
2500	82.	87.	81.	138.	143.
3150	80.	79.	79.	135.	138.
4000	81.	79.	79.	135.	139.
5000	80.	79.	77.	132.	139.
6300	77.	76.	74.	127.	135.
8000	75.	75.	75.	124.	136.
10000	72.	72.	69.	119.	132.
12500	67.	66.	65.	116.	126.
16000	64.	62.	62.	112.	125.
20000	57.	55.	57.	108.	122.

OCTAVE FREQ	1	2	3	4	5
63	76.	75.	75.	147.	151.
125	92.	90.	92.	157.	159.
250	81.	81.	81.	149.	151.
500	85.	86.	86.	145.	149.
1000	90.	92.	91.	150.	156.
2000	86.	89.	85.	142.	147.
4000	85.	84.	83.	139.	143.
8000	80.	79.	78.	129.	139.
16000	69.	68.	67.	118.	129.

CONFIGURATION 21
EX-CELL-O AIR BLAST
POWER SETTING 55
READING NO. 467

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	69.	69.	143.	146.
63	76.	77.	77.	142.	145.
80	68.	66.	69.	143.	146.
100	92.	87.	95.	161.	166.
125	73.	73.	74.	148.	151.
160	73.	74.	75.	147.	149.
200	75.	75.	74.	149.	151.
250	75.	75.	76.	147.	150.
315	79.	78.	79.	143.	148.
400	79.	79.	79.	142.	146.
[illegible]	79.	80.	80.	142.	146.
[illegible]	83.	82.	84.	144.	146.
[illegible]	82.	82.	82.	141.	146.
[illegible]	82.	83.	83.	136.	146.
1250	93.	96.	95.	136.	155.
1600	82.	82.	81.	134.	144.
2000	81.	82.	81.	135.	142.
2500	85.	87.	84.	135.	144.
3150	80.	79.	79.	136.	138.
4000	82.	80.	78.	135.	138.
5000	82.	80.	78.	129.	138.
6300	81.	83.	79.	129.	133.
8000	83.	85.	83.	126.	128.
10000	78.	78.	75.	121.	124.
12500	72.	73.	70.	120.	123.
16000	71.	70.	67.	118.	122.
20000	65.	63.	64.	118.	121.

OCTAVE FREQ					
63	79.	78.	78.	147.	150.
125	92.	87.	95.	161.	166.
250	82.	81.	82.	152.	155.
500	86.	85.	86.	148.	151.
1000	94.	96.	95.	143.	156.
2000	88.	89.	87.	139.	148.
4000	86.	84.	83.	139.	143.
8000	86.	88.	85.	131.	135.
16000	75.	75.	72.	124.	127.

CONFIGURATION 21
EX-CELL-O AIR BLAST
POWER SETTING 75
READING NO. 468

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	75.	70.	141.	146.
63	78.	78.	78.	141.	144.
80	68.	72.	69.	142.	147.
100	94.	93.	95.	163.	163.
125	74.	76.	75.	147.	152.
160	73.	76.	75.	148.	150.
200	77.	77.	75.	151.	152.
250	76.	78.	76.	147.	150.
315	79.	78.	79.	144.	149.
400	79.	79.	79.	143.	148.
500	79.	80.	80.	143.	147.
630	83.	83.	84.	144.	148.
800	82.	82.	82.	143.	146.
1000	83.	82.	83.	138.	147.
1250	98.	96.	97.	137.	155.
1600	85.	84.	85.	135.	146.
2000	82.	82.	83.	135.	144.
2500	87.	88.	90.	136.	144.
3150	81.	81.	81.	137.	140.
4000	83.	81.	81.	136.	138.
5000	83.	81.	79.	130.	138.
6300	79.	81.	78.	130.	135.
8000	80.	82.	81.	126.	129.
10000	79.	82.	80.	122.	125.
12500	74.	77.	73.	120.	123.
16000	69.	71.	69.	118.	121.
20000	65.	64.	65.	117.	120.
OCTAVE FREQ					
63	79.	80.	79.	146.	151.
125	94.	93.	95.	163.	164.
250	82.	82.	82.	153.	155.
500	86.	86.	86.	148.	152.
1000	98.	96.	97.	145.	156.
2000	90.	90.	92.	140.	150.
4000	87.	86.	85.	140.	144.
8000	84.	86.	85.	132.	136.
16000	76.	78.	75.	123.	126.

CONFIGURATION 21
EX-CELL-O AIR BLAST
POWER SETTING 100
READING NO. 469

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	71.	71.	71.	137.	146.
63	79.	79.	78.	143.	144.
80	68.	68.	68.	134.	148.
100	93.	92.	92.	159.	164.
125	74.	75.	76.	142.	153.
160	76.	75.	77.	142.	152.
200	78.	77.	76.	144.	153.
250	78.	77.	77.	144.	150.
315	79.	79.	78.	146.	150.
400	80.	82.	80.	147.	149.
500	78.	81.	80.	147.	147.
630	84.	84.	84.	151.	148.
800	83.	85.	83.	151.	146.
1000	83.	83.	83.	149.	147.
1250	98.	97.	98.	163.	155.
1600	90.	89.	90.	155.	149.
2000	83.	82.	82.	149.	145.
2500	86.	84.	84.	150.	145.
3150	83.	81.	80.	148.	141.
4000	84.	82.	81.	148.	139.
5000	85.	83.	80.	149.	139.
6300	84.	85.	79.	150.	137.
8000	84.	87.	82.	153.	130.
10000	82.	83.	78.	149.	126.
12500	79.	76.	73.	142.	124.
16000	75.	72.	69.	138.	123.
20000	68.	65.	65.	131.	121.
OCTAVE FREQ					
63	80.	80.	79.	144.	151.
125	93.	92.	92.	159.	165.
250	83.	83.	82.	150.	156.
500	86.	87.	87.	154.	153.
1000	98.	97.	98.	163.	156.
2000	92.	91.	91.	157.	152.
4000	89.	87.	85.	153.	145.
8000	88.	90.	85.	156.	138.
16000	81.	78.	75.	144.	128.

CONFIGURATION 22
EX-CELL-O AIR ASSIST 4.5 0/0 ABOVE BIP
POWER SETTING 160
READING NO. 480

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	72.	72.	71.	145.	144.
63	78.	78.	77.	144.	145.
80	70.	70.	69.	144.	148.
100	72.	73.	73.	152.	151.
125	75.	76.	78.	151.	154.
160	74.	75.	75.	151.	153.
200	76.	77.	75.	155.	153.
250	77.	76.	78.	148.	149.
315	78.	79.	79.	147.	151.
400	78.	80.	79.	146.	150.
500	79.	80.	80.	147.	148.
630	84.	84.	83.	147.	149.
800	83.	83.	83.	145.	147.
1000	81.	82.	82.	140.	147.
1250	96.	96.	94.	138.	155.
1600	87.	87.	86.	137.	148.
2000	82.	83.	82.	138.	145.
2500	85.	87.	85.	139.	144.
3150	82.	81.	81.	138.	142.
4000	81.	81.	81.	137.	139.
5000	80.	82.	80.	132.	139.
6300	78.	78.	77.	132.	137.
8000	73.	75.	73.	126.	131.
10000	69.	71.	70.	123.	126.
12500	66.	68.	68.	122.	126.
16000	64.	65.	65.	120.	124.
20000	62.	62.	59.	119.	123.
OCTAVE FREQ					
63	79.	79.	78.	149.	151.
125	79.	80.	81.	156.	158.
250	82.	82.	82.	156.	156.
500	86.	87.	86.	151.	154.
1000	96.	96.	95.	147.	156.
2000	90.	91.	89.	143.	151.
4000	86.	86.	85.	141.	145.
8000	80.	80.	79.	133.	138.
16000	69.	70.	70.	125.	129.

CONFIGURATION 23
EX-CELL-O AIR ASSIST 10 O/O ABOVE BIP
POWER SETTING 10
READING NO. 470

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	63.	63.	63.	136.	141.
63	66.	67.	68.	134.	138.
80	67.	67.	68.	139.	142.
100	72.	73.	73.	143.	146.
125	69.	68.	72.	141.	147.
160	71.	71.	71.	144.	144.
200	73.	72.	74.	139.	143.
250	71.	70.	71.	137.	142.
315	71.	74.	73.	138.	143.
400	75.	75.	74.	136.	140.
500	75.	77.	75.	137.	141.
630	77.	77.	78.	136.	140.
800	75.	76.	77.	135.	140.
1000	85.	82.	81.	132.	148.
1250	81.	80.	79.	131.	146.
1600	74.	75.	74.	131.	138.
2000	73.	73.	75.	131.	138.
2500	72.	73.	74.	132.	136.
3150	75.	75.	74.	133.	133.
4000	76.	76.	76.	130.	133.
5000	72.	74.	72.	125.	131.
6300	70.	72.	70.	123.	126.
8000	67.	70.	69.	121.	123.
10000	63.	66.	65.	117.	118.
12500	59.	62.	62.	114.	115.
16000	56.	58.	60.	110.	114.
20000	52.	52.	54.	109.	112.
OCTAVE FREQ					
63	70.	71.	72.	142.	145.
125	76.	76.	77.	148.	151.
250	77.	77.	78.	143.	147.
500	81.	81.	81.	141.	145.
1000	87.	85.	84.	138.	151.
2000	78.	79.	79.	136.	142.
4000	79.	80.	79.	135.	137.
8000	72.	75.	73.	126.	128.
16000	61.	64.	65.	116.	119.

CONFIGURATION 23
EX-CELL-O AIRASSIST 10 O/O ABOVE BIP
POWER SETTING 25
READING NO. 472

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	64.	63.	66.	139.	142.
63	70.	68.	69.	137.	141.
80	66.	67.	67.	141.	143.
100	69.	69.	71.	145.	145.
125	68.	71.	73.	143.	149.
160	70.	71.	71.	144.	146.
200	73.	71.	72.	142.	145.
250	72.	71.	74.	141.	145.
315	73.	74.	74.	139.	144.
400	75.	77.	76.	138.	142.
500	78.	80.	77.	139.	142.
630	80.	80.	80.	139.	142.
800	78.	78.	79.	138.	142.
1000	84.	84.	86.	133.	148.
1250	88.	87.	90.	133.	153.
1600	77.	77.	77.	133.	140.
2000	75.	76.	76.	133.	139.
2500	76.	77.	77.	134.	140.
3150	78.	77.	77.	134.	135.
4000	78.	78.	78.	133.	135.
5000	75.	77.	75.	127.	134.
6300	72.	73.	71.	125.	127.
8000	69.	71.	70.	123.	125.
10000	65.	67.	66.	119.	120.
12500	61.	63.	64.	116.	117.
16000	57.	59.	61.	111.	115.
20000	53.	53.	55.	109.	113.
OCTAVE FREQ					
63	72.	71.	72.	144.	147.
125	74.	75.	77.	149.	152.
250	77.	77.	78.	146.	149.
500	83.	84.	83.	143.	147.
1000	90.	89.	92.	140.	154.
2000	81.	81.	81.	138.	144.
4000	82.	82.	82.	137.	139.
8000	74.	76.	74.	128.	130.
16000	63.	65.	66.	118.	120.

CONFIGURATION 23
EX-CELL-O AIRASSIST 10 0/0 ABOVE BIP
POWER SETTING 40
READING NO. 474

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	67.	67.	69.	143.	147.
63	75.	76.	76.	142.	145.
80	67.	68.	68.	144.	148.
100	70.	71.	71.	149.	150.
125	73.	74.	76.	148.	152.
160	73.	73.	74.	148.	149.
200	74.	74.	75.	147.	149.
250	75.	75.	78.	145.	147.
315	78.	80.	79.	142.	147.
400	78.	79.	79.	141.	145.
500	79.	82.	80.	140.	145.
630	83.	83.	83.	142.	144.
800	81.	81.	82.	140.	145.
1000	82.	82.	83.	135.	147.
1250	88.	89.	91.	135.	155.
1600	80.	80.	80.	134.	143.
2000	81.	80.	81.	134.	142.
2500	87.	82.	87.	135.	142.
3150	80.	79.	80.	136.	138.
4000	80.	80.	80.	135.	139.
5000	78.	80.	78.	129.	139.
6300	74.	75.	74.	128.	132.
8000	71.	73.	72.	126.	127.
10000	66.	69.	68.	122.	124.
12500	62.	65.	66.	121.	123.
16000	58.	60.	62.	120.	122.
20000	54.	55.	56.	119.	122.
OCTAVE FREQ					
63	76.	77.	77.	148.	152.
125	77.	78.	79.	153.	155.
250	81.	82.	82.	150.	153.
500	85.	86.	86.	146.	149.
1000	90.	90.	92.	142.	156.
2000	89.	86.	89.	139.	147.
4000	84.	84.	84.	139.	143.
8000	76.	78.	77.	131.	134.
16000	64.	67.	68.	125.	127.

CONFIGURATION 23
EX-CELL-O AIRASSIST 10 0/0 ABOVE BIP
POWER SETTING 55
READING NO. 477

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.	70.	71.	144.	147.
63	76.	76.	77.	143.	145.
80	69.	68.	69.	144.	149.
100	70.	71.	71.	151.	152.
125	73.	73.	76.	150.	154.
160	73.	74.	74.	148.	151.
200	74.	74.	75.	149.	150.
250	75.	76.	77.	145.	148.
315	77.	79.	79.	143.	149.
400	78.	79.	79.	143.	147.
500	79.	81.	80.	142.	146.
630	82.	83.	82.	143.	147.
800	81.	83.	83.	141.	145.
1000	81.	82.	82.	136.	146.
1250	89.	91.	91.	136.	155.
1600	81.	81.	82.	134.	144.
2000	80.	81.	82.	135.	143.
2500	83.	85.	86.	136.	144.
3150	80.	80.	81.	136.	138.
4000	79.	81.	80.	135.	138.
5000	79.	81.	79.	129.	139.
6300	75.	76.	75.	129.	133.
8000	72.	74.	72.	126.	128.
10000	68.	70.	69.	121.	124.
12500	64.	66.	66.	121.	124.
16000	60.	61.	63.	119.	123.
20000	54.	56.	57.	119.	122.
OCTAVE FREQ					
63	78.	77.	78.	148.	152.
125	77.	78.	79.	155.	157.
250	80.	82.	82.	151.	154.
500	85.	86.	85.	147.	151.
1000	90.	92.	92.	143.	156.
2000	86.	88.	89.	140.	148.
4000	84.	85.	85.	139.	143.
8000	77.	79.	77.	131.	135.
16000	66.	68.	68.	125.	128.

CONFIGURATION 23
EX-CELL-O AIR ASSIST 10 0/0 ABOVE BIP
POWER SETTING 75
READING NO. 479

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	72.	71.	72.	144.	148.
63	79.	78.	79.	143.	146.
80	69.	72.	71.	144.	147.
100	71.	73.	73.	150.	153.
125	74.	75.	78.	150.	154.
160	75.	74.	75.	149.	153.
200	78.	76.	76.	151.	152.
250	77.	76.	78.	145.	148.
315	79.	78.	79.	143.	149.
400	78.	79.	79.	144.	148.
500	80.	80.	80.	143.	146.
630	83.	84.	82.	143.	148.
800	82.	83.	82.	143.	146.
1000	82.	82.	83.	137.	147.
1250	96.	94.	96.	138.	155.
1600	96.	95.	96.	135.	146.
2000	82.	82.	83.	136.	144.
2500	84.	86.	87.	137.	143.
3150	84.	84.	86.	137.	140.
4000	82.	81.	83.	135.	138.
5000	80.	81.	81.	130.	138.
6300	80.	80.	81.	130.	135.
8000	79.	77.	80.	126.	129.
10000	71.	72.	74.	122.	125.
12500	67.	68.	70.	121.	125.
16000	65.	64.	68.	120.	124.
20000	62.	61.	64.	119.	123.
OCTAVE FREQ					
63	80.	80.	80.	148.	152.
125	78.	79.	81.	154.	158.
250	83.	82.	83.	152.	155.
500	86.	86.	85.	148.	152.
1000	96.	95.	96.	145.	156.
2000	96.	96.	97.	141.	149.
4000	87.	87.	89.	140.	144.
8000	83.	82.	84.	132.	136.
16000	70.	70.	73.	125.	129.

CONFIGURATION 24
EX-CELL-O AIR ASSIST 20 0/0 ABOVE BIP
POWER SETTING 10
READING NO. 471

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	63.	62.	64.	138.	140.
63	67.	67.	68.	135.	138.
80	67.	67.	68.	140.	143.
100	69.	70.	71.	143.	145.
125	67.	69.	71.	143.	148.
160	71.	71.	72.	145.	144.
200	73.	71.	72.	140.	144.
250	71.	70.	72.	139.	143.
315	72.	72.	74.	139.	143.
400	74.	76.	76.	137.	140.
500	76.	78.	77.	137.	141.
630	78.	78.	79.	137.	141.
800	76.	77.	78.	136.	141.
1000	86.	83.	80.	145.	151.
1250	82.	81.	79.	141.	148.
1600	75.	75.	75.	133.	138.
2000	74.	74.	75.	133.	138.
2500	73.	74.	73.	133.	136.
3150	76.	75.	75.	132.	133.
4000	76.	76.	76.	130.	133.
5000	73.	74.	73.	127.	131.
6300	71.	72.	70.	123.	125.
8000	67.	69.	69.	121.	123.
10000	63.	67.	64.	116.	118.
12500	60.	63.	63.	113.	115.
16000	56.	58.	59.	110.	114.
20000	53.	52.	54.	109.	112.

OCTAVE FREQ					
63	71.	71.	72.	143.	146.
125	74.	75.	76.	149.	151.
250	77.	76.	78.	144.	148.
500	81.	82.	82.	142.	145.
1000	88.	86.	84.	147.	153.
2000	79.	79.	79.	138.	142.
4000	80.	80.	80.	135.	137.
8000	73.	75.	73.	126.	128.
16000	62.	64.	65.	116.	119.

CONFIGURATION 24
EX-CELL-O AIR ASSIST 20 0/0 ABOVE BIP
POWER SETTING 25
READING NO. 473

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	64.	66.	65.	139.	142.
63	69.	69.	69.	137.	141.
80	66.	68.	68.	142.	143.
100	68.	69.	71.	145.	146.
125	70.	71.	72.	144.	148.
160	74.	75.	72.	147.	146.
200	72.	72.	72.	143.	146.
250	72.	72.	72.	142.	145.
315	73.	75.	74.	140.	144.
400	75.	77.	76.	139.	142.
500	77.	81.	78.	139.	142.
630	80.	80.	80.	139.	142.
800	78.	78.	79.	138.	142.
1000	83.	86.	87.	133.	147.
1250	86.	89.	91.	133.	152.
1600	77.	77.	77.	133.	140.
2000	82.	86.	88.	133.	140.
2500	84.	86.	90.	134.	140.
3150	78.	77.	77.	134.	134.
4000	79.	80.	80.	132.	135.
5000	79.	82.	83.	127.	134.
6300	73.	74.	73.	124.	128.
8000	70.	72.	72.	124.	125.
10000	65.	68.	68.	119.	120.
12500	62.	64.	67.	115.	117.
16000	58.	59.	63.	111.	115.
20000	53.	53.	56.	109.	112.
OCTAVE FREQ					
63	72.	73.	72.	145.	147.
125	76.	77.	76.	150.	152.
250	77.	78.	78.	147.	150.
500	83.	84.	83.	144.	147.
1000	88.	91.	93.	140.	154.
2000	87.	89.	92.	138.	145.
4000	83.	85.	85.	137.	139.
8000	75.	77.	76.	128.	130.
16000	64.	65.	69.	117.	120.

CONFIGURATION 24
EX-CELL-O AIRASSIST 20 0/0 ABOVE BIP
POWER SETTING 40
READING NO. 475

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	70.	70.	145.	146.
63	76.	76.	77.	142.	145.
80	68.	69.	68.	143.	148.
100	69.	71.	71.	150.	150.
125	73.	73.	76.	148.	152.
160	74.	75.	74.	148.	149.
200	75.	74.	74.	148.	148.
250	76.	75.	77.	144.	147.
315	78.	79.	79.	142.	147.
400	79.	79.	80.	140.	144.
500	79.	82.	80.	141.	145.
630	82.	82.	82.	142.	145.
800	82.	82.	82.	140.	145.
1000	81.	83.	84.	134.	147.
1250	88.	89.	91.	135.	155.
1600	80.	80.	80.	134.	143.
2000	80.	80.	81.	134.	142.
2500	84.	82.	84.	135.	142.
3150	80.	79.	79.	135.	138.
4000	79.	80.	79.	135.	139.
5000	78.	80.	78.	129.	138.
6300	74.	75.	73.	127.	131.
8000	70.	72.	72.	126.	126.
10000	66.	69.	67.	121.	123.
12500	62.	65.	66.	121.	123.
16000	59.	60.	63.	119.	122.
20000	54.	54.	57.	119.	122.
OCTAVE FREQ					
63	77.	78.	78.	148.	151.
125	77.	78.	79.	154.	155.
250	81.	81.	82.	150.	152.
500	85.	86.	86.	146.	149.
1000	90.	91.	92.	142.	156.
2000	87.	86.	87.	139.	147.
4000	84.	84.	83.	139.	143.
8000	76.	77.	76.	130.	133.
16000	64.	66.	68.	125.	127.

CONFIGURATION 24
EX-CELL-O AIR ASSIST 20 O/O ABOVE BIP
POWER SETTING 55
READING NO. 478

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	72.	61.	144.	150.
63	78.	79.	70.	142.	147.
80	69.	69.	60.	146.	149.
100	70.	70.	61.	151.	152.
125	73.	74.	68.	149.	153.
160	74.	74.	65.	148.	151.
200	76.	75.	66.	148.	151.
250	76.	76.	68.	146.	148.
315	79.	79.	69.	143.	149.
400	78.	79.	69.	142.	147.
500	81.	82.	72.	142.	146.
630	83.	83.	72.	142.	147.
800	82.	83.	74.	142.	146.
1000	81.	83.	73.	136.	146.
1250	95.	97.	87.	136.	155.
1600	94.	90.	80.	135.	144.
2000	83.	83.	73.	135.	143.
2500	86.	87.	76.	136.	143.
3150	82.	81.	71.	137.	139.
4000	82.	81.	72.	136.	139.
5000	80.	81.	71.	130.	138.
6300	79.	77.	68.	129.	134.
8000	76.	75.	65.	127.	129.
10000	69.	71.	60.	122.	124.
12500	66.	68.	58.	122.	124.
16000	64.	64.	56.	120.	123.
20000	62.	62.	53.	119.	123.
OCTAVE FREQ					
63	79.	80.	71.	149.	154.
125	77.	78.	70.	154.	157.
250	82.	82.	73.	151.	154.
500	86.	86.	76.	147.	151.
1000	95.	97.	87.	144.	156.
2000	95.	92.	82.	140.	148.
4000	86.	86.	76.	140.	143.
8000	81.	80.	70.	132.	136.
16000	69.	70.	61.	125.	128.

CONFIGURATION 25
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 0
POWER SETTING 75
READING NO. 497

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.		0.	133.	142.
63	75.		0.	133.	143.
80	68.		0.	134.	143.
100	69.		0.	137.	147.
125	72.		0.	138.	152.
160	74.		0.	142.	152.
200	74.		0.	138.	150.
250	76.		0.	135.	147.
315	79.		0.	137.	147.
400	80.		0.	138.	144.
500	79.		0.	137.	143.
630	83.		0.	133.	144.
800	81.		0.	133.	145.
1000	81.		0.	136.	145.
1250	84.		0.	135.	147.
1600	81.		0.	134.	144.
2000	80.		0.	134.	142.
2500	81.		0.	134.	142.
3150	80.		0.	132.	138.
4000	80.		0.	130.	137.
5000	85.		0.	127.	138.
6300	79.		0.	126.	138.
8000	77.		0.	123.	131.
10000	80.		0.	121.	129.
12500	71.		0.	117.	127.
16000	69.		0.	114.	126.
20000	64.		0.	111.	124.
OCTAVE FREQ					
63	76.		0.	138.	147.
125	77.		0.	144.	156.
250	82.		0.	142.	153.
500	86.		0.	141.	148.
1000	87.		0.	140.	151.
2000	85.		0.	139.	148.
4000	87.		0.	135.	142.
8000	84.		0.	129.	139.
16000	74.		0.	119.	131.

CONFIGURATION 26
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 10
POWER SETTING 40
READING NO. 490

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	69.	0.	0.	0.
63	77.	78.	0.	0.	0.
80	67.	67.	0.	0.	0.
100	71.	75.	0.	0.	0.
125	74.	74.	0.	0.	0.
160	74.	74.	0.	0.	0.
200	78.	76.	0.	0.	0.
250	78.	77.	0.	0.	0.
315	80.	80.	0.	0.	0.
400	81.	80.	0.	0.	0.
500	81.	82.	0.	0.	0.
630	84.	83.	0.	0.	0.
800	84.	85.	0.	0.	0.
1000	84.	83.	0.	0.	0.
1250	84.	83.	0.	0.	0.
1600	83.	83.	0.	0.	0.
2000	80.	81.	0.	0.	0.
2500	82.	84.	0.	0.	0.
3150	80.	80.	0.	0.	0.
4000	81.	80.	0.	0.	0.
5000	80.	78.	0.	0.	0.
6300	77.	76.	0.	0.	0.
8000	77.	74.	0.	0.	0.
10000	72.	71.	0.	0.	0.
12500	68.	67.	0.	0.	0.
16000	62.	63.	0.	0.	0.
20000	57.	56.	0.	0.	0.
OCTAVE FREQ					
63	78.	79.	0.	0.	0.
125	78.	79.	0.	0.	0.
250	84.	83.	0.	0.	0.
500	87.	87.	0.	0.	0.
1000	89.	89.	0.	0.	0.
2000	87.	88.	0.	0.	0.
4000	85.	84.	0.	0.	0.
8000	81.	79.	0.	0.	0.
16000	69.	69.	0.	0.	0.

CONFIGURATION 27
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 20
POWER SETTING 25
READING NO. 468

		MICROPHONE POSITION			
1/3 OCT FREQ	1	2	3	4	5
50	68.	67.	0.	127.	145.
63	70.	67.	0.	127.	143.
80	67.	67.	0.	124.	141.
100	68.	70.	0.	127.	144.
125	71.	70.	0.	128.	141.
160	73.	74.	0.	131.	142.
200	74.	73.	0.	131.	142.
250	72.	73.	0.	129.	142.
315	75.	74.	0.	131.	142.
400	77.	76.	0.	134.	143.
500	77.	80.	0.	134.	145.
630	80.	81.	0.	137.	147.
800	81.	82.	0.	138.	148.
1000	82.	81.	0.	139.	149.
1250	81.	82.	0.	139.	150.
1600	80.	79.	0.	136.	145.
2000	77.	77.	0.	134.	144.
2500	77.	77.	0.	134.	143.
3150	77.	77.	0.	134.	143.
4000	79.	78.	0.	136.	144.
5000	77.	76.	0.	134.	143.
6300	75.	74.	0.	132.	139.
8000	74.	73.	0.	131.	139.
10000	70.	70.	0.	128.	137.
12500	65.	66.	0.	123.	133.
16000	61.	61.	0.	118.	128.
20000	56.	54.	0.	112.	123.
OCTAVE FREQ					
63	73.	72.	0.	131.	148.
125	76.	77.	0.	134.	147.
250	79.	78.	0.	135.	147.
500	83.	84.	0.	140.	150.
1000	86.	86.	0.	143.	154.
2000	83.	83.	0.	140.	149.
4000	83.	82.	0.	140.	148.
8000	78.	77.	0.	135.	143.
16000	67.	67.	0.	124.	135.

CONFIGURATION 27
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 20
POWER SETTING 40
READING NO. 489

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	80.	77.	0.	143.	150.
63	82.	81.	0.	142.	150.
80	77.	75.	0.	147.	152.
100	83.	81.	0.	151.	156.
125	82.	81.	0.	145.	154.
160	83.	81.	0.	146.	153.
200	84.	81.	0.	142.	153.
250	85.	83.	0.	141.	149.
315	89.	86.	0.	141.	149.
400	88.	87.	0.	142.	146.
500	88.	89.	0.	139.	146.
630	92.	90.	0.	133.	145.
800	91.	90.	0.	133.	147.
1000	92.	90.	0.	138.	147.
1250	100.	102.	0.	136.	152.
1600	94.	94.	0.	134.	143.
2000	90.	87.	0.	134.	142.
2500	95.	92.	0.	133.	144.
3150	88.	86.	0.	132.	138.
4000	89.	88.	0.	130.	140.
5000	88.	85.	0.	127.	138.
6300	85.	83.	0.	126.	135.
8000	84.	81.	0.	125.	129.
10000	80.	78.	0.	120.	127.
12500	75.	73.	0.	121.	124.
16000	71.	69.	0.	119.	123.
20000	65.	63.	0.	119.	122.
OCTAVE FREQ					
63	85.	83.	0.	149.	156.
125	87.	86.	0.	153.	159.
250	91.	89.	0.	146.	156.
500	95.	94.	0.	144.	150.
1000	101.	103.	0.	141.	154.
2000	98.	97.	0.	138.	148.
4000	93.	91.	0.	135.	144.
8000	88.	86.	0.	129.	136.
16000	77.	75.	0.	125.	128.

CONFIGURATION 27
VAR GEOM CONST DIA SWIRL DOME 0/3 OPEN DZ = 20
POWER SETTING 55
READING NO. 495

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.	70.	0.	140.	148.
63	74.	76.	0.	140.	151.
80	71.	70.	0.	144.	153.
100	73.	73.	0.	148.	155.
125	74.	74.	0.	143.	154.
160	74.	73.	0.	145.	152.
200	75.	76.	0.	141.	154.
250	77.	77.	0.	139.	149.
315	80.	79.	0.	140.	149.
400	80.	80.	0.	140.	147.
500	79.	81.	0.	139.	146.
630	84.	85.	0.	132.	146.
800	83.	83.	0.	132.	147.
1000	85.	83.	0.	138.	148.
1250	90.	90.	0.	137.	152.
1600	85.	84.	0.	134.	144.
2000	82.	82.	0.	133.	143.
2500	84.	85.	0.	133.	146.
3150	80.	81.	0.	131.	139.
4000	81.	82.	0.	129.	140.
5000	83.	89.	0.	128.	140.
6300	78.	78.	0.	124.	136.
8000	78.	76.	0.	123.	130.
10000	85.	81.	0.	125.	132.
12500	70.	69.	0.	117.	127.
16000	69.	68.	0.	116.	129.
20000	64.	62.	0.	109.	123.
OCTAVE FREQ					
63	77.	78.	0.	147.	156.
125	78.	78.	0.	151.	159.
250	83.	82.	0.	145.	156.
500	86.	87.	0.	143.	151.
1000	92.	91.	0.	141.	154.
2000	89.	89.	0.	138.	149.
4000	86.	90.	0.	134.	144.
8000	86.	84.	0.	129.	138.
16000	73.	72.	0.	120.	132.

CONFIGURATION 26
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 40
POWER SETTING 10
READING NO. 464

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	62.	63.	63.	139.	145.
63	67.	67.	65.	138.	147.
80	67.	66.	68.	143.	146.
100	66.	67.	70.	143.	147.
125	68.	69.	71.	141.	150.
160	70.	69.	72.	143.	148.
200	70.	70.	70.	140.	148.
250	70.	71.	71.	138.	146.
315	76.	74.	75.	140.	144.
400	77.	76.	76.	139.	141.
500	78.	79.	75.	133.	141.
630	77.	79.	78.	129.	140.
800	79.	78.	78.	130.	142.
1000	80.	78.	80.	132.	150.
1250	78.	77.	78.	131.	146.
1600	77.	76.	75.	131.	139.
2000	74.	74.	74.	130.	139.
2500	74.	73.	72.	129.	137.
3150	74.	73.	71.	128.	134.
4000	76.	75.	72.	124.	135.
5000	74.	72.	69.	123.	132.
6300	71.	69.	66.	120.	128.
8000	70.	69.	65.	120.	125.
10000	66.	66.	62.	115.	123.
12500	62.	62.	59.	114.	123.
16000	58.	59.	55.	111.	123.
20000	54.	54.	49.	110.	122.

OCTAVE FREQ	1	2	3	4	5
63	71.	70.	71.	145.	151.
125	73.	73.	76.	147.	153.
250	78.	77.	77.	144.	151.
500	82.	83.	81.	140.	145.
1000	84.	82.	84.	136.	152.
2000	80.	79.	79.	135.	143.
4000	80.	78.	76.	130.	139.
8000	74.	73.	69.	124.	131.
16000	64.	64.	61.	117.	127.

CONFIGURATION 28
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 40
POWER SETTING 25
READING NO. 485

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	64.	65.	64.	140.	143.
63	68.	67.	68.	139.	147.
80	66.	66.	69.	142.	146.
100	67.	68.	71.	143.	148.
125	69.	71.	71.	141.	150.
160	71.	71.	74.	143.	148.
200	71.	70.	70.	139.	147.
250	71.	72.	71.	140.	146.
315	75.	74.	74.	141.	147.
400	76.	74.	75.	141.	143.
500	77.	80.	76.	136.	142.
630	78.	79.	79.	131.	142.
800	79.	79.	78.	131.	144.
1000	83.	82.	82.	135.	148.
1250	85.	84.	83.	133.	150.
1600	79.	78.	77.	132.	141.
2000	80.	79.	78.	132.	140.
2500	77.	77.	77.	131.	140.
3150	76.	75.	74.	130.	135.
4000	78.	77.	77.	127.	136.
5000	75.	74.	74.	125.	134.
6300	73.	71.	70.	122.	129.
8000	71.	70.	67.	121.	126.
10000	68.	67.	65.	117.	126.
12500	63.	63.	63.	115.	124.
16000	59.	59.	58.	111.	122.
20000	54.	54.	54.	109.	122.
OCTAVE FREQ					
63	71.	71.	72.	145.	150.
125	74.	75.	77.	147.	154.
250	78.	77.	77.	145.	151.
500	82.	83.	82.	143.	147.
1000	88.	87.	86.	138.	153.
2000	84.	83.	82.	136.	145.
4000	81.	80.	80.	133.	140.
8000	76.	74.	73.	125.	132.
16000	65.	65.	65.	117.	128.

CONFIGURATION 2E
VAR GEOM CONST DIA SWIRL DOME O/C OPEN DZ = 40
POWER SETTING 40
READING NO. 491

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	63.	65.	0.	141.	145.
63	72.	73.	0.	138.	146.
80	66.	66.	0.	142.	146.
100	72.	73.	0.	142.	145.
125	74.	73.	0.	140.	147.
160	74.	73.	0.	144.	150.
200	72.	73.	0.	139.	146.
250	75.	76.	0.	140.	146.
315	80.	79.	0.	141.	147.
400	79.	79.	0.	141.	144.
500	79.	81.	0.	139.	144.
630	82.	82.	0.	135.	144.
800	81.	81.	0.	135.	145.
1000	84.	82.	0.	139.	147.
1250	90.	87.	0.	143.	154.
1600	80.	81.	0.	136.	143.
2000	80.	80.	0.	134.	142.
2500	81.	85.	0.	134.	143.
3150	79.	78.	0.	132.	138.
4000	80.	79.	0.	131.	139.
5000	79.	78.	0.	127.	137.
6300	75.	75.	0.	126.	133.
8000	74.	73.	0.	124.	129.
10000	69.	69.	0.	119.	126.
12500	65.	66.	0.	117.	124.
16000	60.	62.	0.	112.	123.
20000	55.	55.	0.	109.	122.
OCTAVE FREQ					
63	73.	74.	0.	145.	150.
125	78.	78.	0.	147.	153.
250	82.	81.	0.	145.	151.
500	85.	86.	0.	144.	149.
1000	91.	89.	0.	145.	155.
2000	85.	87.	0.	140.	147.
4000	84.	83.	0.	135.	143.
8000	78.	78.	0.	129.	135.
16000	67.	68.	0.	119.	128.

CONFIGURATION 28
VAR GEOM CONST DIA SWIRL DOME 0/0 CPEN DZ = 40
POWER SETTING 55
READING NO. 494

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	68.	69.	0.	136.	142.
63	75.	75.	0.	135.	141.
80	67.	67.	0.	139.	144.
100	69.	70.	0.	141.	146.
125	73.	76.	0.	140.	146.
160	74.	73.	0.	144.	150.
200	74.	75.	0.	139.	147.
250	76.	76.	0.	140.	147.
315	79.	79.	0.	141.	147.
400	79.	79.	0.	141.	146.
500	78.	80.	0.	139.	145.
630	82.	83.	0.	134.	145.
800	81.	81.	0.	134.	146.
1000	85.	82.	0.	138.	148.
1250	94.	91.	0.	139.	154.
1600	82.	81.	0.	135.	144.
2000	80.	79.	0.	134.	143.
2500	83.	81.	0.	134.	144.
3150	79.	79.	0.	133.	140.
4000	81.	80.	0.	131.	140.
5000	86.	85.	0.	128.	141.
6300	76.	75.	0.	126.	135.
8000	75.	73.	0.	124.	130.
10000	80.	82.	0.	120.	128.
12500	70.	69.	0.	117.	127.
16000	70.	70.	0.	114.	128.
20000	64.	63.	0.	110.	123.

OCTAVE FREQ	1	2	3	4	5
63	76.	76.	0.	142.	147.
125	77.	78.	0.	147.	153.
250	82.	82.	0.	145.	152.
500	85.	86.	0.	144.	150.
1000	95.	92.	0.	142.	155.
2000	87.	85.	0.	139.	148.
4000	88.	87.	0.	136.	145.
8000	82.	83.	0.	129.	137.
16000	74.	73.	0.	119.	131.

CONFIGURATION 29
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 60
POWER SETTING 10
READING NO. 483

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	63.	62.	62.	139.	142.
63	68.	67.	64.	139.	143.
80	66.	66.	69.	142.	145.
100	65.	66.	71.	143.	147.
125	68.	70.	72.	141.	146.
160	71.	69.	72.	142.	145.
200	70.	70.	70.	141.	145.
250	71.	71.	72.	140.	144.
315	74.	73.	75.	139.	143.
400	76.	74.	74.	139.	139.
500	77.	80.	76.	133.	140.
630	78.	78.	79.	130.	139.
800	78.	77.	78.	130.	141.
1000	82.	83.	81.	132.	149.
1250	78.	79.	77.	131.	144.
1600	77.	76.	75.	131.	139.
2000	75.	74.	75.	130.	139.
2500	73.	73.	72.	129.	137.
3150	74.	73.	72.	128.	133.
4000	75.	75.	73.	124.	134.
5000	74.	72.	69.	123.	132.
6300	71.	69.	66.	120.	127.
8000	70.	68.	65.	120.	125.
10000	66.	66.	62.	116.	122.
12500	62.	61.	58.	114.	119.
16000	58.	57.	54.	110.	116.
20000	54.	53.	49.	109.	114.
OCTAVE FREQ					
63	71.	70.	71.	145.	148.
125	73.	73.	76.	147.	151.
250	77.	76.	78.	145.	149.
500	82.	83.	82.	140.	144.
1000	85.	85.	84.	136.	151.
2000	80.	79.	79.	135.	143.
4000	79.	78.	76.	130.	138.
8000	74.	73.	69.	124.	130.
16000	64.	63.	60.	116.	122.

CONFIGURATION 29
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 60
POWER SETTING 25
READING NO. 486

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.	61.	81.	140.	143.
63	70.	65.	79.	139.	143.
80	69.	66.	81.	138.	142.
100	73.	70.	82.	141.	144.
125	73.	70.	80.	144.	146.
160	71.	69.	83.	140.	143.
200	73.	68.	79.	141.	144.
250	73.	71.	81.	142.	145.
315	75.	73.	83.	142.	145.
400	75.	73.	81.	138.	142.
500	82.	75.	78.	139.	142.
630	81.	78.	73.	138.	142.
800	80.	78.	72.	140.	142.
1000	87.	81.	76.	144.	147.
1250	87.	81.	75.	146.	149.
1600	79.	76.	74.	138.	141.
2000	86.	79.	74.	138.	140.
2500	81.	79.	73.	137.	141.
3150	81.	78.	73.	133.	136.
4000	81.	80.	69.	133.	136.
5000	78.	75.	67.	132.	134.
6300	73.	69.	65.	126.	129.
8000	72.	67.	64.	123.	126.
10000	69.	66.	59.	119.	122.
12500	66.	63.	57.	115.	117.
16000	61.	57.	54.	113.	116.
20000	55.	52.	52.	110.	113.

OCTAVE FREQ	1	2	3	4	5
63	74.	69.	85.	144.	147.
125	77.	74.	87.	147.	149.
250	79.	76.	86.	146.	149.
500	85.	81.	83.	143.	147.
1000	90.	85.	79.	149.	152.
2000	88.	83.	78.	142.	145.
4000	85.	83.	75.	137.	140.
8000	76.	72.	68.	128.	131.
16000	67.	64.	60.	118.	120.

CONFIGURATION 29
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 60
POWER SETTING 40
READING NO. 492

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	80.	67.	0.	136.	140.
63	80.	72.	0.	135.	139.
80	80.	66.	0.	138.	140.
100	83.	67.	0.	140.	142.
125	86.	72.	0.	141.	146.
160	83.	71.	0.	142.	144.
200	84.	72.	0.	139.	144.
250	84.	75.	0.	140.	144.
315	84.	77.	0.	142.	145.
400	82.	76.	0.	140.	142.
500	83.	78.	0.	139.	143.
630	82.	80.	0.	137.	143.
800	83.	79.	0.	138.	144.
1000	85.	81.	0.	141.	147.
1250	90.	86.	0.	145.	152.
1600	81.	78.	0.	136.	142.
2000	81.	78.	0.	136.	142.
2500	81.	81.	0.	137.	142.
3150	77.	76.	0.	133.	138.
4000	77.	77.	0.	132.	138.
5000	75.	76.	0.	131.	137.
6300	71.	72.	0.	127.	132.
8000	67.	71.	0.	124.	128.
10000	64.	67.	0.	120.	125.
12500	59.	62.	0.	117.	120.
16000	56.	58.	0.	113.	118.
20000	52.	53.	0.	110.	113.
OCTAVE FREQ					
63	85.	74.	0.	141.	144.
125	89.	75.	0.	146.	149.
250	89.	80.	0.	145.	149.
500	87.	83.	0.	144.	147.
1000	92.	88.	0.	147.	154.
2000	86.	84.	0.	141.	147.
4000	81.	81.	0.	137.	142.
8000	73.	75.	0.	129.	134.
16000	61.	64.	0.	119.	123.

CONFIGURATION 29
VAR GEOM CONST DIA SWIRL DO E 0/0 OPEN DZ = 60
POWER SETTING 55
READING NO. 493

MICROPHONE POSITION

1/3 OCT FREQ	1	2	3	4	5
50	74.		0.	135.	140.
63	78.		0.	133.	139.
80	76.		0.	137.	142.
100	78.		0.	140.	144.
125	82.		0.	141.	146.
160	82.		0.	143.	145.
200	83.		0.	139.	146.
250	85.		0.	141.	146.
315	90.		0.	144.	147.
400	90.		0.	141.	144.
500	89.		0.	139.	144.
630	92.		0.	134.	144.
800	91.		0.	133.	145.
1000	93.		0.	137.	146.
1250	100.		0.	137.	150.
1600	91.		0.	135.	143.
2000	90.		0.	135.	142.
2500	93.		0.	134.	143.
3150	89.		0.	133.	139.
4000	90.		0.	131.	138.
5000	93.		0.	129.	139.
6300	86.		0.	126.	134.
8000	85.		0.	124.	129.
10000	90.		0.	123.	130.
12500	77.		0.	118.	122.
16000	78.		0.	117.	121.
20000	71.		0.	110.	116.

OCTAVE FREQ	1	2	3	4	5
63	81.		0.	140.	145.
125	86.		0.	146.	150.
250	92.		0.	147.	151.
500	95.		0.	144.	149.
1000	101.		0.	141.	152.
2000	96.		0.	139.	147.
4000	96.		0.	136.	143.
8000	92.		0.	129.	136.
16000	81.		0.	121.	125.

CONFIGURATION 30
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 80
POWER SETTING 10
READING NO. 482

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	62.	62.	62.	139.	142.
63	67.	65.	63.	137.	142.
80	66.	65.	69.	140.	141.
100	66.	67.	72.	141.	143.
125	68.	68.	70.	138.	143.
160	71.	69.	71.	142.	142.
200	70.	69.	70.	141.	144.
250	71.	71.	72.	141.	144.
315	74.	72.	73.	139.	142.
400	75.	75.	75.	138.	138.
500	77.	78.	75.	134.	139.
630	79.	78.	78.	130.	139.
800	79.	78.	78.	130.	140.
1000	82.	83.	80.	132.	148.
1250	78.	78.	77.	131.	145.
1600	77.	76.	75.	131.	138.
2000	74.	75.	75.	130.	139.
2500	73.	74.	73.	129.	136.
3150	74.	73.	72.	129.	132.
4000	76.	76.	73.	125.	133.
5000	73.	71.	70.	124.	130.
6300	71.	69.	66.	122.	126.
8000	70.	68.	65.	121.	124.
10000	66.	65.	62.	118.	121.
12500	62.	62.	59.	116.	117.
16000	58.	58.	54.	113.	115.
20000	54.	53.	49.	110.	113.
OCTAVE FREQ					
63	70.	69.	71.	144.	146.
125	74.	73.	76.	145.	147.
250	77.	76.	77.	145.	148.
500	82.	82.	81.	140.	143.
1000	85.	85.	83.	136.	150.
2000	80.	80.	79.	135.	143.
4000	79.	79.	77.	131.	137.
8000	74.	72.	69.	125.	129.
16000	64.	64.	61.	118.	120.

CONFIGURATION 30
VAR GEOM CONST DIA SWIRL DOME 0/0 OPEN DZ = 80
POWER SETTING 25
READING NO. 487

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	63.	63.	64.	137.	147.
63	66.	66.	67.	136.	146.
80	65.	66.	67.	137.	146.
100	67.	69.	72.	139.	149.
125	68.	70.	72.	138.	150.
160	70.	70.	71.	141.	148.
200	70.	71.	69.	138.	150.
250	71.	72.	72.	139.	152.
315	74.	73.	75.	141.	151.
400	75.	74.	75.	139.	147.
500	77.	80.	77.	136.	148.
630	79.	80.	80.	131.	146.
800	79.	79.	79.	131.	149.
1000	83.	82.	83.	134.	153.
1250	83.	83.	84.	133.	157.
1600	79.	78.	79.	133.	147.
2000	85.	86.	87.	132.	147.
2500	80.	82.	82.	131.	147.
3150	80.	80.	82.	131.	143.
4000	80.	81.	85.	128.	143.
5000	77.	76.	78.	125.	142.
6300	74.	73.	73.	123.	136.
8000	73.	72.	70.	123.	134.
10000	68.	68.	68.	118.	129.
12500	64.	64.	65.	116.	124.
16000	59.	59.	60.	111.	122.
20000	53.	53.	54.	109.	115.
OCTAVE FREQ					
63	70.	70.	71.	141.	151.
125	73.	74.	76.	144.	154.
250	77.	77.	77.	144.	156.
500	82.	84.	83.	141.	152.
1000	87.	86.	87.	138.	159.
2000	87.	88.	89.	137.	152.
4000	84.	84.	87.	133.	147.
8000	77.	76.	76.	127.	139.
16000	65.	65.	66.	118.	126.

CONFIGURATION 21
VAR GEOM CONST DIA SWIRL DOME O/C OPEN DZ = 100
POWER SETTING 10
READING NO. 481

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	62.	62.	53.	137.	142.
63	67.	66.	57.	135.	141.
80	65.	66.	61.	137.	141.
100	65.	68.	63.	140.	143.
125	68.	69.	61.	137.	141.
160	72.	69.	62.	141.	142.
200	72.	71.	62.	141.	144.
250	70.	72.	62.	139.	143.
315	75.	73.	63.	137.	141.
400	75.	75.	64.	138.	139.
500	76.	78.	65.	134.	139.
630	78.	77.	67.	130.	139.
800	77.	77.	68.	130.	140.
1000	81.	85.	70.	131.	150.
1250	79.	81.	68.	131.	146.
1600	77.	75.	65.	131.	138.
2000	75.	74.	64.	130.	138.
2500	74.	73.	63.	129.	137.
3150	73.	73.	62.	129.	133.
4000	76.	75.	63.	125.	133.
5000	73.	72.	60.	124.	131.
6300	71.	69.	57.	121.	127.
8000	70.	69.	55.	120.	125.
10000	66.	65.	52.	116.	121.
12500	62.	61.	49.	115.	118.
16000	57.	57.	46.	111.	116.
20000	54.	53.	44.	110.	113.
OCTAVE FREQ					
63	70.	70.	63.	141.	146.
125	74.	73.	67.	144.	147.
250	78.	77.	67.	144.	148.
500	81.	82.	70.	140.	144.
1000	84.	87.	74.	135.	152.
2000	80.	79.	69.	135.	142.
4000	79.	78.	67.	131.	137.
8000	74.	73.	60.	124.	130.
16000	64.	63.	52.	117.	121.

CONFIGURATION 32
PLUG FLOW/CANTED PRIMARY INITIAL DESIGN
POWER SETTING 10
READING NO. 498

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	63.	66.	0.	136.	140.
63	67.	74.	0.	136.	140.
80	64.	67.	0.	141.	142.
100	63.	69.	0.	143.	145.
125	67.	70.	0.	139.	145.
160	71.	72.	0.	141.	143.
200	70.	72.	0.	137.	143.
250	69.	72.	0.	139.	144.
315	74.	73.	0.	141.	145.
400	75.	75.	0.	142.	140.
500	75.	77.	0.	137.	142.
630	77.	78.	0.	132.	141.
800	78.	78.	0.	133.	141.
1000	81.	80.	0.	136.	146.
1250	76.	76.	0.	131.	141.
1600	76.	76.	0.	131.	139.
2000	76.	76.	0.	130.	141.
2500	76.	77.	0.	129.	136.
3150	82.	87.	0.	129.	134.
4000	86.	91.	0.	126.	134.
5000	75.	77.	0.	124.	132.
6300	74.	79.	0.	121.	126.
8000	76.	83.	0.	120.	124.
10000	67.	73.	0.	116.	121.
12500	65.	70.	0.	114.	118.
16000	64.	68.	0.	111.	117.
20000	57.	62.	0.	110.	113.
OCTAVE FREQ					
63	70.	75.	0.	143.	146.
125	73.	75.	0.	146.	149.
250	76.	77.	0.	144.	149.
500	81.	82.	0.	144.	146.
1000	84.	83.	0.	139.	148.
2000	81.	81.	0.	135.	144.
4000	88.	93.	0.	132.	138.
8000	78.	85.	0.	124.	129.
16000	68.	73.	0.	117.	121.

CONFIGURATION 32
PLUG FLOW/CANTED PRIMARY INITIAL DESIGN
POWER SETTING 25
READING NO. 459

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	63.	67.	0.	137.	140.
63	67.	74.	0.	136.	139.
80	64.	67.	0.	141.	141.
100	65.	68.	0.	145.	143.
125	67.	70.	0.	142.	145.
160	70.	71.	0.	143.	142.
200	71.	72.	0.	139.	142.
250	70.	72.	0.	141.	143.
315	74.	75.	0.	143.	144.
400	76.	74.	0.	144.	141.
500	77.	78.	0.	141.	143.
630	78.	78.	0.	134.	141.
800	78.	79.	0.	135.	141.
1000	83.	86.	0.	139.	144.
1250	80.	83.	0.	134.	142.
1600	79.	79.	0.	133.	139.
2000	77.	77.	0.	132.	139.
2500	78.	78.	0.	131.	137.
3150	79.	80.	0.	131.	134.
4000	86.	88.	0.	129.	134.
5000	76.	78.	0.	125.	133.
6300	74.	75.	0.	122.	127.
8000	76.	66.	0.	122.	125.
10000	68.	71.	0.	117.	119.
12500	69.	72.	0.	116.	118.
16000	65.	69.	0.	112.	115.
20000	56.	62.	0.	110.	113.

OCTAVE FREQ					
63	70.	75.	0.	143.	145.
125	73.	75.	0.	148.	148.
250	77.	78.	0.	146.	148.
500	82.	82.	0.	146.	147.
1000	86.	88.	0.	141.	147.
2000	83.	83.	0.	137.	143.
4000	87.	89.	0.	134.	138.
8000	79.	86.	0.	126.	130.
16000	71.	74.	0.	118.	121.

CONFIGURATION 33
TANGENTIAL SWIRL
POWER SETTING 10
READING NO. 528

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	72.	74.	0.	137.	153.
63	73.	74.	0.	136.	153.
80	71.	74.	0.	139.	152.
100	72.	74.	0.	142.	154.
125	72.	73.	0.	140.	154.
160	74.	74.	0.	142.	153.
200	71.	71.	0.	138.	153.
250	71.	72.	0.	138.	154.
315	74.	75.	0.	140.	154.
400	75.	75.	0.	138.	151.
500	76.	76.	0.	133.	152.
630	78.	79.	0.	130.	151.
[illegible]	76.	77.	0.	131.	152.
[illegible]	79.	80.	0.	131.	160.
1250	81.	81.	0.	131.	160.
1600	78.	79.	0.	131.	150.
2000	75.	76.	0.	130.	149.
2500	74.	75.	0.	130.	147.
3150	76.	75.	0.	129.	144.
4000	77.	78.	0.	125.	144.
5000	76.	74.	0.	124.	143.
6300	72.	71.	0.	120.	138.
8000	69.	70.	0.	119.	134.
10000	64.	65.	0.	114.	130.
12500	58.	60.	0.	112.	126.
16000	54.	55.	0.	109.	125.
20000	52.	51.	0.	109.	123.
OCTAVE FREQ					
63	77.	79.	0.	142.	157.
125	78.	78.	0.	146.	158.
250	77.	78.	0.	144.	158.
500	81.	82.	0.	140.	156.
1000	84.	84.	0.	136.	163.
2000	81.	82.	0.	135.	154.
4000	81.	81.	0.	131.	148.
8000	74.	74.	0.	123.	140.
16000	60.	62.	0.	115.	130.

CONFIGURATION 33
TANGENTIAL SWIRL
POWER SETTING 25
READING NO. 520

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	73.	74.	0.	141.	145.
63	74.	75.	0.	137.	143.
80	71.	71.	0.	139.	142.
100	69.	70.	0.	144.	146.
125	70.	70.	0.	143.	147.
160	70.	72.	0.	143.	144.
200	71.	71.	0.	140.	146.
250	71.	72.	0.	139.	146.
315	73.	75.	0.	141.	147.
400	74.	75.	0.	140.	143.
500	76.	77.	0.	136.	144.
630	78.	78.	0.	131.	143.
800	78.	79.	0.	131.	144.
1000	82.	82.	0.	133.	148.
1250	89.	88.	0.	132.	155.
1600	79.	79.	0.	132.	142.
2000	78.	78.	0.	132.	141.
2500	76.	77.	0.	131.	139.
3150	77.	78.	0.	131.	136.
4000	79.	79.	0.	127.	138.
5000	77.	77.	0.	125.	135.
6300	74.	74.	0.	123.	131.
8000	71.	72.	0.	121.	127.
10000	66.	68.	0.	116.	123.
12500	62.	64.	0.	114.	123.
16000	57.	60.	0.	110.	122.
20000	53.	54.	0.	109.	122.

OCTAVE FREQ	1	2	3	4	5
63	78.	78.	0.	144.	148.
125	74.	76.	0.	148.	151.
250	77.	78.	0.	145.	151.
500	81.	82.	0.	142.	148.
1000	90.	89.	0.	137.	156.
2000	83.	83.	0.	136.	146.
4000	83.	83.	0.	133.	141.
8000	76.	77.	0.	126.	133.
16000	64.	66.	0.	116.	127.

CONFIGURATION 34
CONST DIA SWIRL DOME
POWER SETTING 75
READING NO. 554

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	62.	62.	62.	139.	145.
63	66.	66.	68.	138.	145.
80	60.	61.	60.	142.	146.
100	61.	61.	62.	145.	148.
125	67.	66.	67.	143.	148.
160	66.	68.	65.	145.	147.
200	68.	68.	66.	142.	148.
250	67.	68.	67.	140.	148.
315	69.	72.	69.	141.	148.
400	69.	71.	69.	140.	146.
500	70.	71.	72.	141.	147.
630	72.	72.	72.	135.	146.
800	71.	72.	71.	134.	146.
1000	73.	74.	73.	136.	146.
1250	85.	85.	86.	140.	152.
1600	74.	75.	75.	136.	146.
2000	73.	75.	73.	135.	145.
2500	74.	79.	75.	134.	145.
3150	72.	74.	72.	133.	141.
4000	72.	74.	72.	132.	139.
5000	72.	73.	72.	126.	138.
6300	69.	72.	70.	127.	136.
8000	69.	74.	69.	124.	131.
10000	64.	67.	67.	120.	128.
12500	61.	64.	66.	117.	126.
16000	58.	60.	63.	112.	124.
20000	54.	54.	57.	110.	122.
OCTAVE FREQ					
63	68.	68.	69.	145.	150.
125	70.	71.	70.	149.	152.
250	73.	75.	72.	146.	153.
500	75.	76.	76.	144.	151.
1000	85.	86.	86.	142.	154.
2000	78.	82.	79.	140.	150.
4000	77.	78.	77.	136.	144.
8000	73.	77.	74.	129.	138.
16000	63.	66.	68.	119.	129.

CONFIGURATION 34
CONST DIA SWIRL DOME
POWER SETTING 100
READING NO. 555

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	73.	73.	72.	140.	144.
63	77.	77.	79.	138.	144.
80	71.	72.	70.	141.	146.
100	71.	71.	72.	144.	148.
125	76.	76.	78.	143.	147.
160	75.	78.	75.	144.	148.
200	77.	78.	77.	143.	148.
250	77.	79.	79.	141.	148.
315	81.	82.	79.	141.	149.
400	79.	81.	79.	141.	148.
500	80.	81.	81.	142.	148.
630	82.	83.	82.	135.	148.
800	81.	82.	81.	135.	148.
1000	82.	83.	82.	137.	148.
1250	93.	95.	93.	138.	154.
1600	86.	87.	87.	137.	149.
2000	83.	84.	84.	137.	147.
2500	86.	86.	84.	135.	147.
3150	83.	84.	82.	133.	143.
4000	83.	84.	83.	132.	142.
5000	83.	84.	83.	126.	140.
6300	80.	82.	81.	128.	139.
8000	78.	80.	80.	123.	133.
10000	76.	79.	79.	119.	129.
12500	74.	77.	77.	117.	128.
16000	71.	73.	74.	113.	124.
20000	66.	67.	68.	110.	123.
OCTAVE FREQ					
63	79.	79.	80.	145.	150.
125	79.	81.	80.	148.	152.
250	84.	85.	83.	147.	153.
500	85.	87.	86.	145.	153.
1000	94.	95.	94.	142.	156.
2000	90.	91.	90.	141.	153.
4000	88.	89.	87.	136.	147.
8000	83.	85.	85.	130.	140.
16000	76.	79.	79.	119.	130.

CONFIGURATION 35
DELAYED QUENCH
POWER SETTING 10
READING NO. 569

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	79.	68.	71.	139.	151.
63	80.	67.	70.	138.	151.
80	83.	69.	70.	143.	153.
100	83.	70.	71.	144.	154.
125	82.	70.	70.	139.	153.
160	81.	73.	70.	141.	152.
200	82.	73.	69.	137.	153.
250	82.	72.	70.	137.	152.
315	81.	76.	72.	138.	152.
400	80.	77.	73.	139.	151.
500	82.	76.	75.	134.	153.
630	81.	80.	75.	131.	152.
800	82.	80.	75.	133.	153.
1000	81.	79.	75.	133.	151.
1250	81.	77.	71.	132.	151.
1600	80.	78.	73.	132.	151.
2000	79.	76.	72.	131.	150.
2500	78.	76.	72.	130.	149.
3150	76.	77.	72.	129.	147.
4000	75.	77.	72.	126.	146.
5000	72.	75.	69.	125.	144.
6300	68.	73.	67.	122.	140.
8000	64.	69.	65.	119.	135.
10000	60.	65.	63.	116.	132.
12500	56.	62.	61.	113.	128.
16000	54.	57.	57.	110.	126.
20000	52.	52.	53.	109.	123.
OCTAVE FREQ					
63	86.	73.	75.	145.	157.
125	87.	76.	75.	147.	158.
250	86.	79.	75.	142.	157.
500	86.	83.	79.	141.	157.
1000	86.	84.	79.	137.	157.
2000	84.	82.	77.	136.	155.
4000	79.	81.	76.	132.	151.
8000	70.	75.	70.	124.	142.
16000	59.	64.	63.	116.	131.

CONFIGURATION 35
DELAYED QUENCH
POWER SETTING 25
READING NO. 570

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	82.	66.	65.	139.	141.
63	80.	68.	69.	137.	142.
80	84.	67.	67.	143.	144.
100	85.	68.	70.	146.	145.
125	84.	69.	71.	140.	144.
160	83.	71.	71.	143.	143.
200	83.	72.	71.	138.	144.
250	83.	70.	73.	139.	145.
315	83.	73.	74.	139.	144.
400	82.	75.	76.	141.	143.
500	83.	74.	77.	137.	144.
630	83.	77.	78.	132.	144.
800	83.	77.	79.	132.	144.
1000	83.	76.	77.	134.	144.
1250	83.	74.	75.	133.	144.
1600	83.	75.	76.	132.	144.
2000	82.	74.	77.	132.	143.
2500	80.	74.	76.	131.	141.
3150	78.	75.	76.	130.	139.
4000	77.	76.	77.	127.	138.
5000	75.	75.	74.	125.	136.
6300	72.	72.	72.	125.	132.
8000	67.	69.	69.	121.	128.
10000	63.	65.	67.	117.	123.
12500	59.	64.	64.	114.	120.
16000	56.	60.	61.	111.	117.
20000	53.	54.	56.	110.	114.
OCTAVE FREQ					
63	87.	72.	72.	145.	147.
125	89.	74.	75.	148.	149.
250	88.	77.	78.	143.	149.
500	87.	80.	82.	143.	148.
1000	88.	81.	82.	138.	149.
2000	87.	79.	81.	136.	148.
4000	82.	80.	81.	133.	143.
8000	74.	74.	75.	127.	134.
16000	61.	66.	66.	117.	122.

CONFIGURATION 35
DELAYED QUENCH
POWER SETTING 40
READING NO. 571

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	66.	68.	70.	141.	143.
63	74.	77.	77.	139.	142.
80	65.	65.	67.	145.	146.
100	67.	67.	69.	147.	147.
125	73.	72.	72.	143.	146.
160	73.	73.	72.	143.	145.
200	73.	72.	71.	140.	146.
250	74.	75.	73.	141.	146.
315	79.	77.	76.	141.	145.
400	79.	77.	76.	142.	145.
500	78.	79.	77.	139.	146.
630	82.	82.	79.	133.	146.
800	81.	81.	78.	133.	147.
1000	80.	80.	78.	136.	145.
1250	79.	78.	76.	134.	145.
1600	80.	79.	77.	134.	145.
2000	80.	80.	78.	134.	145.
2500	81.	83.	81.	133.	143.
3150	80.	79.	77.	132.	141.
4000	80.	79.	77.	130.	140.
5000	80.	79.	76.	127.	139.
6300	75.	75.	73.	127.	135.
8000	73.	73.	70.	123.	130.
10000	69.	70.	68.	120.	125.
12500	66.	66.	66.	116.	122.
16000	62.	63.	62.	111.	118.
20000	56.	56.	57.	109.	114.

OCTAVE FREQ	1	2	3	4	5
63	75.	78.	78.	147.	149.
125	77.	76.	76.	150.	151.
250	81.	80.	79.	145.	150.
500	85.	85.	82.	144.	150.
1000	85.	85.	82.	139.	151.
2000	85.	86.	84.	138.	149.
4000	85.	84.	81.	135.	145.
8000	78.	78.	76.	129.	137.
16000	68.	68.	68.	118.	124.

CONFIGURATION 35
DELAYED QUENCH
POWER SETTING 55
READING NO. 572

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	66.	68.	68.	143.	145.
63	74.	75.	77.	143.	144.
80	66.	65.	65.	147.	148.
100	68.	68.	68.	150.	148.
125	73.	73.	74.	144.	147.
160	74.	74.	73.	145.	147.
200	74.	73.	74.	142.	147.
250	75.	76.	77.	140.	147.
315	79.	78.	78.	142.	147.
400	79.	79.	78.	143.	146.
500	78.	80.	80.	141.	147.
630	82.	82.	81.	134.	148.
800	81.	82.	81.	134.	148.
1000	80.	80.	80.	137.	147.
1250	79.	79.	78.	135.	147.
1600	80.	80.	80.	135.	147.
2000	80.	80.	80.	135.	146.
2500	83.	84.	82.	134.	145.
3150	80.	79.	79.	133.	142.
4000	80.	80.	79.	130.	141.
5000	80.	79.	78.	128.	140.
6300	77.	77.	75.	129.	137.
8000	74.	74.	73.	124.	132.
10000	71.	72.	71.	121.	128.
12500	68.	69.	69.	121.	126.
16000	64.	65.	66.	119.	123.
20000	58.	57.	59.	119.	122.
OCTAVE FREQ					
63	75.	76.	78.	150.	151.
125	77.	77.	77.	152.	152.
250	81.	81.	81.	146.	152.
500	85.	85.	85.	145.	152.
1000	85.	85.	85.	140.	152.
2000	86.	87	86.	139.	151.
4000	85.	84.	83.	136.	146.
8000	79.	80.	78.	131.	139.
16000	70.	71.	71.	125.	129.

CONFIGURATION 35
DELAYED QUENCH
POWER SETTING 75
READING NO. 573

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	67.	66.	69.	144.	147.
63	74.	75.	77.	142.	146.
80	68.	67.	66.	147.	149.
100	69.	69.	69.	149.	150.
125	75.	74.	74.	144.	149.
160	74.	75.	76.	146.	147.
200	76.	75.	74.	144.	148.
250	77.	76.	76.	144.	148.
315	79.	77.	79.	144.	149.
400	78.	77.	79.	144.	147.
500	78.	80.	79.	144.	148.
630	83.	84.	82.	139.	149.
800	82.	86.	83.	141.	149.
1000	80.	83.	81.	141.	149.
1250	80.	81.	79.	140.	148.
1600	81.	83.	81.	139.	148.
2000	81.	81.	81.	139.	147.
2500	82.	81.	82.	138.	146.
3150	81.	81.	81.	136.	144.
4000	81.	80.	80.	134.	143.
5000	82.	81.	80.	132.	141.
6300	78.	79.	77.	131.	139.
8000	75.	78.	75.	126.	134.
10000	73.	74.	74.	123.	129.
12500	71.	71.	72.	122.	126.
16000	67.	66.	68.	119.	124.
20000	60.	59.	62.	118.	122.

OCTAVE FREQ	1	2	3	4	5
63	76.	76.	78.	150.	152.
125	78.	78.	79.	152.	154.
250	82.	81.	82.	149.	153.
500	85.	86.	85.	148.	153.
1000	86.	89.	86.	145.	153.
2000	86.	87.	86.	143.	152.
4000	86.	85.	85.	139.	148.
8000	81.	82.	80.	133.	141.
16000	73.	72.	74.	125.	129.

CONFIGURATION 35
DELAYED QUENCH
POWER SETTING 100
READING NO. 574

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	71.	72.	72.	144.	150.
63	78.	79.	80.	144.	146.
80	69.	69.	69.	146.	149.
100	71.	72.	72.	150.	150.
125	77.	77.	77.	146.	150.
160	75.	75.	76.	146.	150.
200	78.	76.	76.	147.	150.
250	78.	77.	77.	143.	150.
315	79.	79.	79.	143.	150.
400	79.	79.	79.	144.	149.
500	80.	80.	80.	146.	150.
630	83.	83.	82.	136.	150.
800	82.	82.	82.	136.	151.
1000	82.	82.	83.	138.	150.
1250	81.	81.	80.	137.	150.
1600	82.	83.	82.	136.	150.
2000	82.	82.	82.	136.	150.
2500	84.	82.	83.	135.	148.
3150	82.	82.	81.	133.	147.
4000	82.	82.	82.	132.	145.
5000	83.	83.	81.	134.	143.
6300	80.	80.	80.	129.	142.
8000	78.	79.	78.	126.	136.
10000	76.	77.	77.	121.	132.
12500	75.	75.	76.	121.	128.
16000	72.	71.	73.	119.	125.
20000	66.	65.	67.	119.	123.
OCTAVE FREQ					
63	79.	80.	81.	150.	153.
125	80.	80.	80.	153.	155.
250	83.	82.	82.	150.	155.
500	86.	86.	85.	148.	154.
1000	86.	86.	87.	142.	155.
2000	88.	87.	87.	140.	154.
4000	87.	87.	86.	138.	150.
8000	83.	84.	83.	131.	143.
16000	77.	77.	78.	125.	131.

CONFIGURATION 36
PRECHAMBER INITIAL DESIGN
POWER SETTING 25
READING NO. 566

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	61.	63.	64.	131.	140.
63	67.	67.	69.	131.	141.
80	70.	67.	67.	133.	141.
100	64.	65.	65.	134.	142.
125	67.	69.	69.	134.	144.
160	71.	71.	70.	140.	145.
200	72.	72.	71.	132.	147.
250	72.	72.	73.	131.	145.
315	76.	75.	76.	134.	146.
400	76.	75.	75.	136.	144.
500	77.	80.	79.	133.	144.
630	80.	79.	80.	131.	144.
800	80.	80.	80.	130.	145.
1000	79.	79.	79.	132.	144.
1250	79.	79.	80.	132.	144.
1600	80.	81.	80.	132.	143.
2000	80.	81.	80.	132.	143.
2500	79.	80.	79.	131.	142.
3150	80.	81.	79.	130.	140.
4000	80.	81.	79.	126.	139.
5000	79.	79.	77.	126.	141.
6300	77.	78.	75.	125.	137.
8000	74.	75.	71.	120.	131.
10000	70.	72.	68.	117.	128.
12500	67.	66.	65.	114.	123.
16000	60.	61.	60.	110.	121.
20000	54.	54.	55.	109.	116.
OCTAVE FREQ					
63	72.	71.	72.	137.	145.
125	73.	74.	73.	142.	149.
250	79.	78.	79.	137.	151.
500	83.	83.	83.	139.	149.
1000	84.	84.	84.	136.	149.
2000	84.	85.	84.	136.	147.
4000	84.	85.	83.	133.	145.
8000	79.	80.	77.	127.	138.
16000	68.	67.	67.	116.	126.

CONFIGURATION 36
PRECHAMBER INITIAL DESIGN
POWER SETTING 25
READING NO. 566

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	63.	63.	64.	130.	141.
63	68.	69.	69.	131.	141.
80	69.	67.	66.	133.	142.
100	64.	65.	64.	135.	144.
125	69.	70.	70.	135.	151.
160	71.	72.	72.	142.	151.
200	71.	72.	71.	135.	148.
250	71.	73.	73.	131.	145.
315	76.	74.	75.	131.	144.
400	75.	75.	76.	134.	141.
500	76.	80.	79.	130.	142.
630	78.	78.	80.	129.	142.
800	79.	79.	79.	129.	143.
1000	78.	77.	77.	130.	142.
1250	77.	76.	76.	130.	143.
1600	78.	79.	79.	131.	142.
2000	78.	78.	77.	130.	141.
2500	78.	78.	77.	129.	140.
3150	78.	79.	78.	128.	138.
4000	78.	79.	77.	124.	137.
5000	78.	77.	75.	125.	139.
6300	76.	76.	73.	123.	135.
8000	73.	73.	70.	119.	130.
10000	69.	70.	68.	116.	127.
12500	65.	65.	63.	113.	122.
16000	59.	60.	59.	111.	120.
20000	54.	54.	55.	110.	116.
OCTAVE FREQ					
63	72.	72.	72.	136.	146.
125	74.	75.	75.	143.	154.
250	78.	78.	78.	138.	151.
500	81.	83.	83.	136.	146.
1000	83.	82.	82.	134.	147.
2000	83.	83.	83.	135.	146.
4000	83.	83.	82.	131.	143.
8000	78.	78.	76.	125.	137.
16000	66.	66.	65.	116.	125.

CONFIGURATION 36
PRECHAMBER INITIAL DESIGN
POWER SETTING 25
READING NO. 585

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	63.	64.	64.	135.	141.
63	68.	70.	68.	134.	141.
80	68.	67.	65.	133.	142.
100	64.	65.	65.	136.	143.
125	68.	69.	69.	137.	144.
160	70.	71.	69.	140.	146.
200	70.	71.	70.	138.	149.
250	70.	72.	73.	137.	146.
315	76.	75.	77.	137.	146.
400	75.	75.	76.	138.	144.
500	75.	78.	76.	137.	145.
630	78.	79.	78.	136.	145.
800	78.	79.	79.	137.	146.
1000	79.	79.	78.	136.	145.
1250	79.	79.	78.	137.	145.
1600	80.	79.	79.	136.	145.
2000	79.	80.	79.	135.	144.
2500	79.	79.	78.	135.	144.
3150	80.	81.	80.	133.	141.
4000	79.	80.	79.	131.	140.
5000	79.	79.	78.	131.	141.
6300	78.	78.	76.	130.	139.
8000	75.	75.	73.	126.	134.
10000	71.	72.	70.	121.	130.
12500	66.	66.	65.	117.	124.
16000	61.	61.	61.	114.	122.
20000	54.	54.	55.	110.	116.
OCTAVE FREQ					
63	72.	72.	71.	139.	146.
125	73.	74.	73.	143.	149.
250	78.	78.	79.	142.	152.
500	81.	82.	82.	142.	149.
1000	83.	84.	83.	141.	150.
2000	84.	84.	83.	140.	149.
4000	84.	85.	84.	137.	145.
8000	80.	80.	78.	132.	141.
16000	67.	67.	67.	119.	127.

CONFIGURATION 36
PRECHAMBER INITIAL DESIGN
POWER SETTING 40
READING NO. 590

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	64.	65.	66.	136.	141.
63	68.	68.	69.	134.	141.
80	69.	68.	66.	136.	142.
100	65.	65.	66.	137.	143.
125	69.	71.	70.	137.	144.
160	71.	72.	69.	142.	144.
200	72.	73.	70.	139.	147.
250	71.	72.	73.	138.	146.
315	76.	75.	77.	138.	146.
400	76.	76.	77.	139.	145.
500	77.	79.	78.	138.	145.
630	78.	79.	79.	137.	145.
800	79.	81.	79.	138.	146.
1000	80.	79.	79.	138.	145.
1250	80.	80.	80.	138.	146.
1600	81.	81.	81.	138.	145.
2000	81.	81.	81.	137.	145.
2500	80.	80.	80.	137.	144.
3150	82.	82.	81.	135.	142.
4000	82.	81.	80.	134.	142.
5000	80.	80.	78.	133.	141.
6300	79.	79.	76.	132.	140.
8000	76.	76.	73.	127.	135.
10000	72.	73.	70.	123.	131.
12500	67.	67.	66.	118.	126.
16000	61.	62.	61.	115.	123.
20000	55.	55.	55.	111.	117.
OCTAVE FREQ					
63	72.	72.	72.	140.	146.
125	74.	75.	73.	144.	148.
250	78.	78.	79.	143.	151.
500	82.	83.	83.	143.	150.
1000	84.	85.	84.	143.	150.
2000	85.	85.	85.	142.	149.
4000	86.	86.	85.	139.	146.
8000	81.	81.	78.	134.	142.
16000	68.	68.	67.	120.	128.

CONFIGURATION 36
PRECHAMBER INITIAL DESIGN
POWER SETTING 55
READING NO. 591

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	67.	67.	68.	138.	141.
63	76.	77.	77.	136.	142.
80	71.	68.	66.	136.	143.
100	69.	69.	68.	138.	145.
125	77.	78.	76.	136.	144.
160	73.	74.	72.	142.	145.
200	73.	73.	73.	136.	148.
250	74.	76.	76.	134.	147.
315	80.	79.	79.	136.	147.
400	79.	79.	80.	138.	147.
500	79.	79.	79.	137.	147.
630	80.	81.	81.	133.	147.
800	81.	82.	81.	133.	148.
1000	82.	81.	82.	135.	147.
1250	82.	81.	82.	135.	147.
1600	83.	82.	83.	135.	147.
2000	82.	82.	82.	135.	147.
2500	85.	83.	83.	135.	146.
3150	83.	82.	83.	133.	145.
4000	83.	84.	83.	131.	144.
5000	81.	81.	79.	127.	142.
6300	80.	80.	78.	129.	142.
8000	77.	76.	75.	123.	137.
10000	73.	74.	72.	121.	133.
12500	69.	69.	68.	117.	127.
16000	63.	64.	64.	111.	125.
20000	57.	57.	57.	108.	122.
OCTAVE FREQ					
63	78.	78.	78.	142.	147.
125	79.	80.	78.	144.	149.
250	82.	81.	81.	140.	152.
500	84.	85.	85.	141.	152.
1000	86.	86.	86.	139.	152.
2000	88.	87.	87.	140.	151.
4000	87.	87.	87.	136.	149.
8000	82.	82.	80.	130.	144.
16000	70.	70.	70.	118.	130.

CONFIGURATION 36
PRECHAMBER INITIAL DESIGN
POWER SETTING 75
READING NO. 592

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	71.	71.	72.	137.	141.
63	78.	78.	79.	139.	143.
80	71.	69.	68.	138.	142.
100	69.	70.	70.	139.	145.
125	76.	77.	76.	137.	145.
160	74.	74.	73.	142.	146.
200	75.	75.	73.	139.	149.
250	75.	77.	77.	135.	147.
315	79.	79.	79.	137.	147.
400	78.	79.	79.	138.	147.
500	78.	80.	79.	138.	148.
630	81.	81.	81.	134.	147.
800	80.	81.	79.	134.	148.
1000	82.	81.	80.	135.	147.
1250	82.	83.	82.	136.	148.
1600	84.	84.	84.	137.	148.
2000	83.	83.	83.	136.	147.
2500	85.	83.	85.	135.	146.
3150	87.	87.	87.	133.	149.
4000	96.	95.	98.	137.	161.
5000	82.	81.	82.	130.	144.
6300	81.	80.	79.	129.	144.
8000	80.	78.	78.	125.	140.
10000	74.	74.	73.	120.	133.
12500	71.	71.	71.	117.	128.
16000	66.	67.	67.	111.	126.
20000	62.	61.	63.	108.	122.
OCTAVE FREQ					
63	79.	79.	80.	143.	147.
125	79.	79.	78.	145.	150.
250	82.	82.	82.	142.	153.
500	84.	85.	85.	142.	152.
1000	86.	87.	85.	140.	152.
2000	89.	88.	89.	141.	152.
4000	97.	96.	98.	139.	161.
8000	84.	83.	82.	131.	146.
16000	73.	73.	73.	118.	131.

CONFIGURATION 37
RICH PREMIX/SWIRL
POWER SETTING 10
READING NO. 594

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	71.	69.	75.	138.	141.
63	67.	67.	74.	139.	143.
80	68.	68.	76.	138.	142.
100	65.	66.	75.	139.	143.
125	67.	67.	74.	139.	142.
160	69.	72.	76.	141.	143.
200	70.	72.	74.	140.	144.
250	70.	69.	74.	138.	144.
315	74.	73.	74.	138.	143.
400	74.	72.	74.	138.	142.
500	75.	75.	73.	139.	144.
630	76.	76.	73.	138.	143.
800	78.	77.	74.	138.	143.
1000	77.	76.	73.	137.	142.
1250	75.	74.	72.	137.	142.
1600	77.	75.	73.	136.	142.
2000	75.	75.	73.	136.	141.
2500	76.	75.	73.	133.	139.
3150	77.	76.	73.	131.	136.
4000	78.	76.	73.	130.	135.
5000	76.	73.	70.	130.	134.
6300	74.	72.	68.	126.	130.
8000	71.	69.	66.	123.	128.
10000	66.	67.	63.	119.	124.
12500	62.	62.	59.	114.	119.
16000	58.	57.	56.	112.	117.
20000	52.	51.	52.	108.	112.

OCTAVE FREQ	1	2	3	4	5
63	74.	73.	80.	143.	147.
125	72.	74.	80.	145.	147.
250	77.	76.	79.	144.	148.
500	80.	79.	78.	143.	148.
1000	82.	81.	78.	142.	147.
2000	81.	80.	78.	140.	146.
4000	82.	80.	77.	135.	140.
8000	76.	75.	71.	128.	133.
16000	64.	63.	61.	117.	122.

CONFIGURATION 37
RICH PREMIX/SWIRL
POWER SETTING 25
READING NO. 597

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	67.	67.	67.	139.	153.
63	70.	69.	70.	137.	153.
80	68.	68.	66.	137.	151.
100	65.	66.	6[illegible].	139.	151.
125	68.	69.	70.	137.	153.
160	69.	74.	70.	142.	154.
200	71.	74.	72.	140.	156.
250	72.	72.	72.	138.	154.
315	75.	73.	74.	136.	153.
400	75.	74.	73.	138.	152.
500	76.	77.	77.	138.	154.
630	77.	78.	78.	131.	154.
800	78.	79.	78.	131.	154.
1000	77.	79.	78.	132.	153.
1250	77.	78.	76.	132.	154.
1600	78.	79.	78.	132.	153.
2000	78.	79.	79.	132.	152.
2500	76.	78.	78.	131.	151.
3150	78.	79.	77.	130.	148.
4000	78.	79.	78.	127.	147.
5000	78.	77.	76.	124.	147.
6300	75.	75.	73.	124.	143.
8000	73.	73.	70.	121.	139.
10000	68.	70.	67.	117.	135.
12500	64.	64.	64.	113.	131.
16000	59.	59.	60.	108.	128.
20000	53.	53.	54.	106.	122.
OCTAVE FREQ					
63	73.	73.	73.	143.	157.
125	72.	76.	74.	145.	158.
250	78.	78.	78.	143.	159.
500	81.	81.	81.	141.	158.
1000	82.	83.	82.	136.	158.
2000	82.	83.	83.	136.	157.
4000	83.	83.	82.	132.	152.
8000	78.	78.	75.	126.	145.
16000	65.	65.	66.	115.	133.

CONFIGURATION 37
RICH PREMIX/SWIRL
POWER SETTING 40
READING NO. 598

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	69.	67.	137.	142.
63	74.	77.	75.	136.	142.
80	68.	68.	67.	137.	142.
100	68.	69.	69.	139.	143.
125	72.	71.	73.	138.	144.
160	73.	74.	72.	143.	145.
200	75.	78.	74.	143.	149.
250	75.	76.	76.	143.	148.
315	78.	78.	78.	138.	146.
400	77.	77.	77.	140.	144.
500	78.	79.	79.	141.	145.
630	80.	81.	80.	133.	145.
800	79.	79.	79.	132.	145.
1000	80.	81.	80.	133.	144.
1250	91.	91.	94.	134.	144.
1600	84.	84.	89.	133.	144.
2000	81.	81.	81.	133.	143.
2500	86.	88.	84.	133.	142.
3150	80.	81.	81.	131.	139.
4000	80.	80.	80.	128.	139.
5000	80.	79.	79.	125.	138.
6300	78.	78.	78.	125.	134.
8000	75.	76.	76.	122.	130.
10000	71.	72.	70.	119.	126.
12500	67.	67.	67.	114.	122.
16000	63.	63.	63.	109.	119.
20000	56.	59.	57.	107.	113.
OCTAVE FREQ					
63	76.	78.	76.	141.	147.
125	76.	77.	76.	145.	149.
250	81.	82.	81.	147.	153.
500	83.	84.	84.	144.	149.
1000	92.	92.	94.	138.	149.
2000	89.	90.	91.	138.	148.
4000	85.	85.	85.	133.	143.
8000	80.	81.	81.	127.	136.
16000	69.	69.	69.	116.	124.

CONFIGURATION 37
RICH PREMIX/SWIRL
POWER SETTING 55
READING NO. 599

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	66.	69.	68.	137.	148.
63	75.	76.	76.	135.	149.
80	67.	67.	66.	137.	149.
100	69.	69.	69.	139.	151.
125	72.	72.	74.	137.	153.
160	73.	74.	74.	143.	152.
200	74.	75.	74.	138.	153.
250	75.	75.	77.	139.	154.
315	78.	77.	79.	138.	154.
400	77.	77.	77.	139.	153.
500	77.	79.	79.	138.	154.
630	80.	80.	80.	133.	154.
800	79.	79.	81.	133.	154.
1000	79.	80.	79.	134.	153.
1250	80.	80.	80.	134.	153.
1600	80.	80.	81.	134.	153.
2000	81.	81.	81.	134.	152.
2500	84.	82.	81.	133.	151.
3150	80.	80.	80.	132.	148.
4000	80.	79.	79.	129.	147.
5000	80.	79.	78.	125.	146.
6300	77.	77.	76.	127.	144.
8000	77.	75.	75.	122.	139.
10000	73.	72.	71.	119.	135.
12500	69.	69.	69.	115.	131.
16000	66.	65.	65.	110.	129.
20000	60.	60.	60.	107.	123.
OCTAVE FREQ					
63	76.	77.	77.	141.	153.
125	76.	77.	78.	145.	157.
250	81.	81.	82.	143.	158.
500	83.	84.	84.	142.	158.
1000	84.	84.	85.	138.	158.
2000	87.	86.	86.	138.	157.
4000	85.	84.	84.	134.	152.
8000	81.	80.	79.	129.	146.
16000	71.	71.	71.	117.	134.

CONFIGURATION 37
RICH PREMIX/SWIRL
POWER SETTING 75
READING NO. 600

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.	73.	70.	137.	142.
63	77.	77.	79.	136.	142.
80	69.	71.	69.	136.	142.
100	71.	73.	71.	140.	144.
125	74.	74.	75.	138.	145.
160	74.	75.	75.	142.	146.
200	76.	78.	75.	140.	147.
250	77.	76.	77.	140.	148.
315	79.	78.	79.	139.	147.
400	78.	77.	78.	139.	145.
500	78.	79.	79.	140.	147.
630	81.	82.	81.	134.	148.
800	81.	81.	82.	133.	147.
1000	83.	82.	82.	134.	147.
1250	82.	82.	83.	134.	146.
1600	83.	82.	84.	134.	146.
2000	83.	83.	85.	134.	145.
2500	83.	84.	84.	134.	144.
3150	82.	83.	84.	132.	141.
4000	82.	82.	84.	129.	140.
5000	82.	82.	84.	127.	139.
6300	81.	82.	84.	127.	136.
8000	80.	79.	83.	122.	133.
10000	78.	76.	84.	119.	129.
12500	74.	74.	83.	115.	126.
16000	71.	70.	79.	110.	123.
20000	66.	65.	73.	107.	121.

OCTAVE FREQ					
63	78.	79.	80.	141.	147.
125	78.	79.	79.	145.	150.
250	82.	82.	82.	144.	152.
500	84.	85.	84.	143.	152.
1000	87.	86.	87.	138.	151.
2000	88.	88.	89.	139.	150.
4000	87.	87.	89.	135.	145.
8000	85.	84.	88.	129.	138.
16000	76.	76.	85.	117.	129.

CONFIGURATION 37
RICH PREMIX/SWIRL
POWER SETTING 100
READING NO. 601

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	72.	73.	78.	139.	145.
63	77.	77.	79.	138.	144.
80	69.	69.	73.	136.	144.
100	71.	71.	76.	140.	147.
125	74.	75.	77.	139.	146.
160	74.	75.	75.	143.	147.
200	77.	78.	76.	144.	148.
250	78.	77.	78.	143.	149.
315	79.	78.	78.	141.	149.
400	78.	78.	77.	139.	147.
500	78.	79.	79.	143.	149.
630	80.	81.	81.	135.	150.
800	81.	80.	80.	134.	149.
1000	81.	81.	80.	135.	148.
1250	80.	80.	80.	136.	148.
1600	82.	82.	82.	135.	148.
2000	84.	83.	83.	135.	148.
2500	83.	81.	80.	134.	146.
3150	82.	81.	80.	131.	144.
4000	82.	81.	80.	129.	142.
5000	82.	81.	79.	128.	140.
6300	80.	79.	77.	127.	140.
8000	79.	78.	76.	122.	134.
10000	76.	75.	75.	119.	130.
12500	74.	72.	73.	115.	128.
16000	71.	68.	70.	110.	125.
20000	66.	64.	65.	107.	121.
OCTAVE FREQ					
63	79.	79.	82.	143.	149.
125	78.	79.	81.	146.	151.
250	83.	82.	82.	148.	153.
500	84.	84.	84.	145.	154.
1000	85.	85.	85.	140.	153.
2000	88.	87.	87.	139.	152.
4000	87.	86.	84.	134.	147.
8000	83.	82.	81.	129.	141.
16000	76.	74.	75.	117.	130.

CONFIGURATION 36
OPTIMUM PRIMARY HOLES
POWER SETTING 10
READING NO. 607

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	79.	69.	68.	135.	138.
63	74.	66.	69.	134.	139.
80	74.	64.	66.	138.	141.
100	74.	66.	69.	139.	143.
125	75.	68.	68.	137.	142.
160	79.	70.	69.	142.	143.
200	78.	68.	69.	141.	144.
250	78.	69.	70.	139.	144.
315	82.	72.	73.	139.	144.
400	81.	73.	73.	140.	142.
500	83.	75.	75.	133.	144.
630	87.	78.	80.	129.	143.
800	85.	77.	76.	132.	144.
1000	87.	76.	75.	133.	142.
1250	83.	73.	74.	130.	142.
1600	84.	75.	75.	130.	142.
2000	83.	75.	75.	129.	140.
2500	82.	73.	74.	128.	139.
3150	83.	74.	73.	127.	136.
4000	84.	74.	73.	123.	135.
5000	81.	72.	70.	122.	133.
6300	79.	69.	68.	120.	129.
8000	76.	66.	64.	116.	125.
10000	71.	63.	61.	113.	120.
12500	66.	60.	59.	111.	117.
16000	63.	56.	56.	108.	115.
20000	57.	51.	52.	108.	111.

OCTAVE FREQ					
63	81.	72.	73.	141.	144.
125	81.	73.	73.	145.	147.
250	85.	75.	76.	145.	149.
500	89.	81.	82.	141.	148.
1000	90.	80.	80.	137.	148.
2000	88.	79.	79.	134.	145.
4000	88.	78.	77.	129.	140.
8000	81.	71.	70.	122.	131.
16000	68.	62.	61.	114.	120.

CONFIGURATION 38
OPTIMUM PRIMARY HOLES
POWER SETTING 25
READING NO. 608

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	64.	64.	64.	135.	141.
63	69.	68.	69.	133.	140.
80	66.	65.	66.	138.	142.
100	66.	67.	69.	139.	143.
125	67.	69.	70.	137.	144.
160	71.	70.	70.	142.	145.
200	71.	70.	68.	139.	146.
250	70.	70.	72.	139.	145.
315	75.	73.	74.	138.	146.
400	72.	73.	74.	139.	144.
500	74.	76.	76.	135.	145.
630	79.	79.	80.	129.	145.
800	78.	78.	78.	130.	145.
1000	80.	78.	77.	133.	144.
1250	76.	75.	75.	130.	144.
1600	77.	77.	77.	129.	144.
2000	76.	77.	77.	129.	143.
2500	77.	75.	76.	128.	141.
3150	77.	77.	76.	127.	139.
4000	77.	77.	76.	124.	138.
5000	76.	75.	74.	121.	137.
6300	73.	72.	71.	120.	131.
8000	69.	68.	67.	117.	128.
10000	65.	66.	63.	114.	123.
12500	61.	62.	61.	111.	120.
16000	57.	59.	59.	108.	118.
20000	52.	53.	54.	108.	113.

OCTAVE FREQ	1	2	3	4	5
63	72.	71.	72.	141.	146.
125	73.	74.	74.	145.	149.
250	77.	76.	77.	143.	150.
500	81.	81.	82.	141.	149.
1000	83.	82.	82.	136.	149.
2000	81.	81.	81.	133.	148.
4000	81.	81.	80.	129.	143.
8000	75.	74.	73.	122.	133.
16000	63.	64.	64.	114.	123.

CONFIGURATION 38
OPTIMUM PRIMARY HOLES
POWER SETTING 40
READING NO. 609

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	65.	65.	67.	138.	140.
63	69.	69.	70.	136.	142.
80	68.	67.	67.	141.	144.
100	67.	68.	70.	143.	145.
125	68.	69.	69.	140.	146.
160	71.	70.	70.	144.	146.
200	73.	72.	69.	142.	147.
250	72.	71.	73.	142.	147.
315	75.	73.	74.	141.	147.
400	74.	73.	74.	143.	145.
500	75.	76.	77.	140.	147.
630	80.	78.	80.	132.	147.
800	79.	80.	80.	134.	147.
1000	81.	80.	79.	137.	146.
1250	78.	77.	77.	133.	145.
1600	79.	79.	78.	133.	145.
2000	79.	78.	79.	133.	144.
2500	77.	77.	77.	132.	143.
3150	78.	78.	77.	131.	140.
4000	79.	78.	77.	127.	139.
5000	78.	77.	76.	124.	138.
6300	74.	73.	73.	125.	134.
8000	71.	70.	68.	120.	131.
10000	68.	67.	65.	117.	125.
12500	63.	64.	63.	113.	124.
16000	59.	60.	59.	109.	122.
20000	55.	54.	55.	108.	121.

OCTAVE FREQ	1	2	3	4	5
63	72.	72.	73.	144.	147.
125	74.	74.	74.	147.	150.
250	78.	77.	77.	146.	152.
500	82.	81.	82.	145.	151.
1000	84.	84.	84.	140.	151.
2000	83.	83.	83.	137.	149.
4000	83.	82.	81.	133.	144.
8000	76.	75.	75.	127.	136.
16000	65.	66.	65.	115.	127.

CONFIGURATION 3E
OPTIMUM PRIMARY HOLES
POWER SETTING 55
READING NO. 610

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	68.	69.	142.	139.
63	76.	76.	77.	137.	147.
80	67.	67.	67.	142.	137.
100	69.	70.	72.	144.	142.
125	72.	73.	75.	141.	145.
160	73.	75.	73.	144.	144.
200	75.	75.	73.	143.	143.
250	75.	76.	77.	143.	147.
315	79.	79.	79.	142.	149.
400	77.	77.	79.	143.	149.
500	79.	78.	79.	142.	149.
630	81.	81.	83.	133.	152.
800	80.	80.	80.	133.	150.
1000	82.	80.	80.	138.	150.
1250	79.	79.	78.	134.	148.
1600	80.	79.	79.	133.	149.
2000	80.	80.	81.	133.	151.
2500	81.	83.	80.	132.	152.
3150	79.	79.	79.	130.	149.
4000	78.	78.	78.	128.	147.
5000	78.	78.	77.	124.	147.
6300	75.	75.	74.	125.	145.
8000	71.	72.	71.	120.	141.
10000	68.	69.	67.	117.	138.
12500	64.	66.	65.	113.	135.
16000	60.	62.	62.	109.	132.
20000	55.	56.	57.	108.	126.
OCTAVE FREQ					
63	77.	77.	78.	146.	148.
125	76.	78.	78.	148.	149.
250	82.	82.	82.	147.	152.
500	84.	84.	86.	146.	155.
1000	85.	84.	84.	140.	154.
2000	85.	86.	85.	137.	156.
4000	83.	83.	83.	133.	153.
8000	77.	77.	76.	127.	147.
16000	66.	68.	67.	115.	137.

CONFIGURATION 38
OPTIMUM PRIMARY HOLES
POWER SETTING 75
READING NO. 611

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	71.	72.	70.	142.	146.
63	74.	77.	76.	141.	144.
80	68.	67.	68.	144.	146.
100	69.	70.	72.	145.	147.
125	71.	73.	76.	143.	147.
160	72.	74.	74.	146.	148.
200	74.	75.	73.	146.	149.
250	75.	76.	76.	143.	148.
315	78.	78.	78.	143.	149.
400	77.	77.	79.	144.	147.
500	77.	78.	79.	144.	147.
630	81.	81.	83.	139.	149.
800	79.	80.	82.	138.	149.
1000	82.	80.	81.	141.	149.
1250	79.	79.	79.	139.	147.
1600	80.	80.	81.	138.	148.
2000	81.	81.	82.	138.	147.
2500	80.	84.	80.	136.	144.
3150	79.	79.	80.	135.	143.
4000	78.	78.	79.	133.	141.
5000	78.	78.	78.	130.	139.
6300	75.	75.	76.	129.	137.
8000	72.	72.	72.	124.	132.
10000	69.	70.	70.	120.	127.
12500	66.	68.	68.	120.	125.
16000	63.	63.	65.	118.	123.
20000	57.	58.	59.	118.	122.
OCTAVE FREQ					
63	76.	79.	77.	147.	150.
125	76.	77.	79.	150.	152.
250	81.	81.	81.	149.	153.
500	84.	84.	86.	148.	153.
1000	85.	84.	86.	144.	153.
2000	85.	87.	86.	142.	151.
4000	83.	83.	84.	138.	146.
8000	77.	78.	78.	131.	139.
16000	68.	70.	70.	124.	128.

CONFIGURATION 38
OPTIMUM PRIMARY HOLES
POWER SETTING 100
READING NO. 612

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	73.	72.	72.	146.	148.
63	78.	78.	75.	143.	146.
80	69.	69.	68.	144.	146.
100	72.	72.	71.	147.	148.
125	75.	75.	75.	144.	148.
160	75.	75.	74.	144.	149.
200	77.	77.	73.	146.	150.
250	77.	77.	77.	144.	149.
315	80.	79.	78.	144.	149.
400	80.	79.	80.	144.	148.
500	81.	80.	79.	146.	149.
630	83.	82.	81.	140.	150.
800	81.	82.	82.	140.	149.
1000	84.	83.	82.	141.	150.
1250	81.	80.	80.	140.	149.
1600	82.	81.	81.	138.	148.
2000	83.	82.	82.	138.	148.
2500	83.	82.	81.	137.	146.
3150	81.	81.	80.	134.	144.
4000	80.	80.	79.	133.	142.
5000	80.	80.	78.	131.	140.
6300	78.	79.	77.	129.	139.
8000	75.	77.	74.	124.	134.
10000	74.	74.	72.	120.	128.
12500	71.	72.	70.	120.	126.
16000	68.	68.	67.	118.	123.
20000	64.	63.	61.	118.	121.
OCTAVE FREQ					
63	80.	79.	77.	149.	152.
125	79.	79.	78.	150.	153.
250	83.	83.	81.	150.	154.
500	86.	85.	85.	149.	154.
1000	87.	87.	86.	145.	154.
2000	87.	86.	86.	142.	152.
4000	85.	85.	84.	138.	147.
8000	81.	82.	80.	131.	140.
16000	73.	74.	72.	124.	129.

CONFIGURATION 39
PRECHAMBER RICHER PRIMARY
POWER SETTING 10
READING NO. 616

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	74.	74.	72.	131.	139.
63	71.	69.	71.	129.	137.
80	68.	69.	67.	131.	139.
100	65.	65.	65.	132.	143.
125	68.	68.	69.	133.	148.
160	72.	71.	71.	141.	152.
200	71.	72.	70.	131.	146.
250	71.	71.	72.	129.	144.
315	76.	74.	76.	131.	144.
400	75.	74.	75.	134.	142.
500	75.	79.	77.	129.	143.
630	78.	78.	79.	128.	143.
800	78.	78.	78.	128.	143.
1000	77.	77.	77.	129.	142.
1250	76.	76.	75.	130.	143.
1600	78.	78.	77.	130.	142.
2000	76.	76.	75.	129.	141.
2500	76.	75.	75.	128.	139.
3150	76.	77.	75.	127.	137.
4000	76.	76.	74.	122.	136.
5000	75.	74.	72.	122.	136.
6300	74.	72.	70.	120.	133.
8000	71.	69.	68.	116.	129.
10000	68.	66.	65.	113.	123.
12500	64.	62.	61.	110.	120.
16000	58.	57.	57.	108.	118.
20000	53.	51.	53.	108.	113.
OCTAVE FREQ					
63	76.	76.	75.	135.	143.
125	74.	73.	74.	142.	154.
250	78.	77.	78.	135.	150.
500	81.	82.	82.	136.	147.
1000	82.	82.	82.	134.	147.
2000	82.	81.	81.	134.	146.
4000	80.	81.	79.	129.	141.
8000	76.	74.	73.	122.	135.
16000	65.	63.	63.	114.	123.

CONFIGURATION 39
PRECHAMBER RICHER PRIMARY
POWER SETTING 25
READING NO. 617

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	72.	74.	72.	135.	139.
63	69.	71.	72.	132.	138.
80	69.	68.	67.	132.	140.
100	65.	66.	65.	137.	142.
125	68.	68.	69.	135.	143.
160	70.	70.	69.	139.	143.
200	71.	72.	69.	135.	145.
250	72.	72.	72.	134.	144.
315	76.	74.	76.	135.	144.
400	74.	74.	75.	136.	143.
500	76.	79.	77.	135.	144.
630	78.	78.	79.	134.	144.
800	79.	79.	79.	135.	145.
1000	79.	78.	79.	135.	143.
1250	78.	79.	78.	136.	145.
1600	79.	79.	79.	134.	143.
2000	78.	78.	78.	134.	142.
2500	77.	77.	77.	132.	142.
3150	78.	78.	78.	131.	139.
4000	78.	78.	77.	128.	138.
5000	77.	76.	74.	128.	137.
6300	75.	73.	72.	125.	135.
8000	72.	71.	70.	121.	130.
10000	69.	68.	67.	117.	125.
12500	65.	63.	63.	113.	121.
16000	59.	58.	58.	111.	120.
20000	54.	52.	54.	108.	114.
OCTAVE FREQ					
63	75.	76.	76.	138.	144.
125	73.	73.	73.	142.	147.
250	78.	78.	78.	139.	149.
500	81.	82.	82.	140.	148.
1000	83.	83.	83.	140.	149.
2000	83.	83.	83.	138.	147.
4000	82.	82.	81.	134.	143.
8000	77.	76.	75.	127.	137.
16000	66.	64.	65.	116.	124.

CONFIGURATION 39
PRECHAMBER RICHER PRIMARY
POWER SETTING 40
READING NO. 618

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	75.	73.	72.	136.	140.
63	73.	73.	77.	133.	141.
80	69.	68.	68.	134.	141.
100	67.	68.	68.	136.	144.
125	70.	71.	74.	135.	143.
160	72.	71.	72.	141.	145.
200	74.	72.	72.	133.	146.
250	74.	74.	75.	132.	146.
315	78.	76.	78.	134.	146.
400	77.	77.	78.	136.	144.
500	78.	79.	78.	134.	146.
630	80.	80.	80.	131.	146.
800	80.	80.	80.	131.	147.
1000	81.	79.	81.	132.	146.
1250	80.	80.	80.	133.	146.
1600	85.	83.	83.	136.	148.
2000	81.	80.	81.	132.	145.
2500	81.	80.	82.	131.	144.
3150	80.	80.	80.	130.	142.
4000	80.	79.	80.	127.	141.
5000	79.	76.	76.	125.	140.
6300	77.	74.	74.	125.	138.
8000	74.	72.	71.	120.	133.
10000	71.	69.	68.	117.	129.
12500	66.	64.	64.	113.	126.
16000	61.	59.	60.	109.	124.
20000	54.	53.	55.	108.	121.
OCTAVE FREQ					
63	78.	77.	79.	139.	145.
125	75.	75.	77.	143.	149.
250	81.	79.	80.	138.	151.
500	83.	84.	84.	139.	150.
1000	85.	84.	85.	137.	151.
2000	88.	86.	87.	138.	151.
4000	84.	83.	84.	133.	146.
8000	79.	77.	76.	127.	140.
16000	67.	65.	66.	115.	129.

CONFIGURATION 39
PRECHAMBER RICHER PRIMARY
POWER SETTING 55
READING NO. 619

			MICROPHONE POSITION		
1/3 OCT FREQ	1	2	3	4	5
50	68.	67.	66.	134.	139.
63	76.	75.	75.	133.	140.
80	68.	66.	64.	133.	141.
100	68.	68.	68.	137.	143.
125	73.	74.	74.	135.	143.
160	73.	73.	71.	142.	144.
200	74.	74.	71.	135.	146.
250	75.	76.	75.	133.	145.
315	79.	80.	78.	135.	146.
400	78.	79.	78.	136.	145.
500	78.	80.	79.	136.	147.
630	81.	81.	81.	132.	147.
800	81.	81.	80.	132.	148.
1000	82.	81.	81.	133.	147.
1250	86.	83.	82.	135.	149.
1600	96.	89.	89.	141.	154.
2000	82.	82.	82.	133.	147.
2500	82.	81.	82.	133.	146.
3150	84.	83.	84.	131.	143.
4000	83.	82.	82.	129.	143.
5000	79.	78.	77.	125.	141.
6300	78.	77.	76.	126.	140.
8000	75.	74.	72.	121.	135.
10000	72.	71.	70.	118.	130.
12500	69.	68.	66.	114.	126.
16000	64.	63.	62.	109.	125.
20000	61.	60.	56.	108.	122.
OCTAVE FREQ					
63	77.	76.	76.	138.	145.
125	77.	7[illegible].	76.	144.	148.
250	81.	82.	80.	139.	150.
500	84.	85.	84.	140.	151.
1000	88.	87.	86.	138.	153.
2000	96.	90.	90.	142.	155.
4000	87.	86.	87.	134.	147.
8000	80.	79.	78.	128.	142.
16000	71.	70.	68.	116.	129.

CONFIGURATION 39
PRECHAMBER RICHER PRIMARY
POWER SETTING 75
READING NO. 621

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	67.	75.	69.	135.	139.
63	75.	76.	78.	133.	141.
80	68.	72.	67.	134.	140.
100	69.	73.	70.	138.	143.
125	72.	75.	74.	137.	144.
160	73.	74.	73.	142.	144.
200	74.	75.	73.	138.	146.
250	75.	75.	77.	134.	146.
315	79.	78.	78.	136.	146.
400	77.	78.	78.	136.	145.
500	78.	78.	78.	137.	147.
630	80.	80.	81.	133.	147.
800	80.	80.	80.	133.	148.
1000	82.	81.	81.	134.	147.
1250	83.	82.	83.	135.	149.
1600	93.	90.	94.	145.	156.
2000	83.	83.	83.	134.	147.
2500	83.	82.	82.	134.	146.
3150	90.	91.	90.	132.	147.
4000	86.	85.	85.	131.	146.
5000	81.	80.	80.	128.	141.
6300	79.	78.	78.	126.	141.
8000	76.	75.	75.	122.	137.
10000	73.	72.	71.	118.	132.
12500	69.	68.	68.	114.	128.
16000	64.	64.	64.	109.	127.
20000	61.	60.	62.	108.	122.

OCTAVE FREQ	1	2	3	4	5
63	76.	79.	79.	139.	145.
125	76.	79.	77.	144.	148.
250	81.	81.	81.	141.	151.
500	83.	84.	84.	140.	151.
1000	87.	86.	86.	139.	153.
2000	94.	91.	95.	146.	157.
4000	92.	92.	92.	135.	150.
8000	81.	80.	80.	128.	143.
16000	71.	70.	70.	116.	131.

CONFIGURATION 40
PEPPERPOT DOME
POWER SETTING 10
READING NO. 630

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	67.	66.	0.	135.	139.
63	68.	68.	0.	133.	139.
80	67.	67.	0.	138.	141.
100	66.	68.	0.	139.	142.
125	67.	68.	0.	137.	141.
160	70.	71.	0.	140.	140.
200	70.	69.	0.	135.	140.
250	71.	71.	0.	136.	141.
315	74.	72.	0.	136.	142.
400	73.	74.	0.	138.	141.
500	75.	76.	0.	133.	142.
630	80.	79.	0.	128.	142.
800	77.	78.	0.	132.	143.
1000	79.	78.	0.	134.	141.
1250	75.	74.	0.	130.	141.
1600	77.	75.	0.	130.	140.
2000	76.	76.	0.	130.	139.
2500	75.	75.	0.	129.	136.
3150	77.	75.	0.	128.	134.
4000	76.	75.	0.	124.	133.
5000	74.	73.	0.	123.	133.
6300	72.	71.	0.	122.	128.
8000	70.	69.	0.	119.	124.
10000	66.	68.	0.	115.	120.
12500	62.	64.	0.	113.	117.
16000	57.	60.	0.	110.	114.
20000	53.	56.	0.	109.	112.
OCTAVE FREQ					
63	72.	72.	0.	141.	145.
125	73.	74.	0.	144.	146.
250	77.	76.	0.	140.	146.
500	82.	82.	0.	140.	146.
1000	82.	82.	0.	137.	147.
2000	81.	80.	0.	134.	143.
4000	81.	79.	0.	130.	138.
8000	75.	74.	0.	124.	130.
16000	64.	66.	0.	116.	120.

CONFIGURATION 40
PEPPERPOT DOME
POWER SETTING 25
READING NO. 631

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	66.	76.	0.	136.	139.
63	69.	75.	0.	134.	139.
80	66.	73.	0.	138.	141.
100	66.	72.	0.	140.	141.
125	68.	71.	0.	139.	142.
160	69.	72.	0.	141.	142.
200	72.	70.	0.	136.	142.
250	72.	72.	0.	136.	142.
315	75.	73.	0.	138.	143.
400	73.	73.	0.	139.	142.
500	76.	76.	0.	137.	143.
630	79.	80.	0.	130.	144.
800	78.	80.	0.	133.	145.
1000	82.	79.	0.	136.	143.
1250	77.	76.	0.	132.	141.
1600	78.	77.	0.	132.	141.
2000	78.	78.	0.	131.	140.
2500	77.	76.	0.	130.	138.
3150	78.	77.	0.	129.	135.
4000	78.	77.	0.	125.	134.
5000	76.	75.	0.	123.	133.
6300	74.	72.	0.	122.	129.
8000	71.	70.	0.	118.	125.
10000	67.	68.	0.	115.	121.
12500	64.	65.	0.	112.	117.
16000	59.	61.	0.	109.	114.
20000	54.	56.	0.	108.	112.
OCTAVE FREQ					
63	72.	80.	0.	141.	145.
125	73.	76.	0.	145.	146.
250	78.	77.	0.	142.	147.
500	81.	82.	0.	141.	148.
1000	84.	83.	0.	139.	148.
2000	82.	82.	0.	136.	145.
4000	82.	81.	0.	131.	139.
8000	76.	75.	0.	124.	131.
16000	66.	67.	0.	115.	120.

CONFIGURATION 40
PEPPERPOT COME
POWER SETTING 40
READING NO. 632

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	74.	74.	0.	138.	141.
63	73.	74.	0.	136.	140.
80	70.	71.	0.	139.	143.
100	69.	71.	0.	141.	144.
125	70.	71.	0.	139.	144.
160	71.	72.	0.	143.	142.
200	72.	72.	0.	137.	143.
250	73.	73.	0.	138.	143.
315	76.	74.	0.	139.	144.
400	73.	74.	0.	140.	142.
500	75.	76.	0.	140.	144.
630	80.	80.	0.	132.	145.
800	80.	80.	0.	134.	146.
1000	85.	83.	0.	139.	145.
1250	79.	78.	0.	133.	143.
1600	80.	79.	0.	132.	142.
2000	81.	80.	0.	133.	142.
2500	79.	78.	0.	132.	140.
3150	80.	79.	0.	131.	137.
4000	78.	78.	0.	127.	136.
5000	77.	77.	0.	124.	135.
6300	75.	74.	0.	124.	131.
8000	72.	72.	0.	120.	126.
10000	69.	70.	0.	117.	122.
12500	65.	68.	0.	113.	119.
16000	61.	64.	0.	110.	115.
20000	56.	59.	0.	109.	112.
OCTAVE FREQ					
63	77.	78.	0.	143.	146.
125	75.	76.	0.	146.	148.
250	79.	78.	0.	143.	148.
500	82.	82.	0.	143.	149.
1000	87.	86.	0.	141.	150.
2000	85.	84.	0.	137.	146.
4000	83.	83.	0.	133.	141.
8000	77.	77.	0.	126.	133.
16000	67.	70.	0.	116.	121.

CONFIGURATION 40
PEPPERPOT DOME
POWER SETTING 55
READING NO. 633

			MICROPHONE POSITION		
1/3 OCT FREQ	1	2	3	4	5
50	77.	76.	0.	140.	141.
63	81.	81.	0.	148.	141.
80	72.	72.	0.	140.	143.
100	71.	73.	0.	142.	145.
125	73.	75.	0.	141.	145.
160	75.	76.	0.	143.	144.
200	78.	77.	0.	140.	144.
250	76.	76.	0.	138.	145.
315	79.	78.	0.	140.	145.
400	77.	77.	0.	142.	145.
500	78.	79.	0.	142.	145.
630	82.	83.	0.	134.	147.
800	81.	82.	0.	135.	147.
1000	85.	85.	0.	140.	147.
1250	80.	80.	0.	136.	144.
1600	81.	82.	0.	134.	144.
2000	82.	81.	0.	134.	143.
2500	81.	84.	0.	133.	141.
3150	81.	80.	0.	132.	138.
4000	80.	79.	0.	129.	137.
5000	78.	78.	0.	126.	136.
6300	77.	76.	0.	126.	134.
8000	74.	74.	0.	122.	129.
10000	71.	72.	0.	119.	124.
12500	67.	70.	0.	116.	121.
16000	63.	66.	0.	112.	117.
20000	58.	62.	0.	110.	113.
OCTAVE FREQ					
63	83.	83.	0.	149.	147.
125	78.	80.	0.	147.	149.
250	83.	82.	0.	144.	149.
500	84.	85.	0.	145.	151.
1000	87.	88.	0.	142.	151.
2000	86.	87.	0.	138.	148.
4000	85.	84.	0.	134.	142.
8000	79.	79.	0.	128.	136.
16000	69.	72.	0.	118.	123.

CONFIGURATION 40
PEPPERPOT DOME
POWER SETTING 75
READING NO. 634

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	75.	82.	0.	140.	141.
63	80.	83.	0.	148.	142.
80	69.	79.	0.	140.	145.
100	71.	78.	0.	143.	146.
125	74.	79.	0.	141.	146.
160	74.	77.	0.	143.	144.
200	77.	77.	0.	141.	145.
250	77.	78.	0.	141.	145.
315	80.	78.	0.	141.	147.
400	78.	77.	0.	142.	145.
500	78.	79.	0.	144.	146.
630	82.	82.	0.	136.	148.
800	81.	81.	0.	135.	147.
1000	85.	85.	0.	140.	148.
1250	80.	79.	0.	136.	145.
1600	81.	80.	0.	135.	144.
2000	82.	80.	0.	135.	144.
2500	81.	81.	0.	134.	142.
3150	82.	80.	0.	132.	140.
4000	81.	78.	0.	130.	138.
5000	80.	78.	0.	126.	137.
6300	78.	76.	0.	128.	135.
8000	75.	74.	0.	122.	131.
10000	72.	72.	0.	120.	125.
12500	68.	69.	0.	117.	122.
16000	65.	67.	0.	114.	118.
20000	60.	61.	0.	111.	114.
OCTAVE FREQ					
63	81.	86.	0.	149.	148.
125	78.	83.	0.	147.	150.
250	83.	82.	0.	146.	151.
500	85.	85.	0.	147.	151.
1000	87.	87.	0.	142.	152.
2000	86.	85.	0.	139.	148.
4000	86.	84.	0.	135.	143.
8000	80.	79.	0.	129.	137.
16000	70.	72.	0.	119.	124.

CONFIGURATION 40
PEPPERPOT COME
POWER SETTING 100
READING NO. 635

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	76.	88.	0.	142.	142.
63	81.	88.	0.	150.	142.
80	70.	87.	0.	140.	146.
100	72.	87.	0.	145.	147.
125	75.	84.	0.	143.	148.
160	74.	83.	0.	144.	145.
200	77.	83.	0.	144.	147.
250	78.	81.	0.	142.	147.
315	80.	80.	0.	143.	148.
400	78.	79.	0.	141.	146.
500	79.	80.	0.	146.	146.
630	81.	81.	0.	137.	148.
800	81.	80.	0.	134.	147.
1000	84.	83.	0.	140.	149.
1250	81.	79.	0.	138.	147.
1600	81.	80.	0.	135.	146.
2000	82.	80.	0.	135.	145.
2500	83.	80.	0.	134.	144.
3150	84.	81.	0.	132.	141.
4000	82.	79.	0.	130.	139.
5000	81.	79.	0.	130.	138.
6300	79.	78.	0.	128.	139.
8000	77.	76.	0.	123.	132.
10000	74.	74.	0.	120.	127.
12500	71.	71.	0.	120.	125.
16000	68.	69.	0.	119.	122.
20000	65.	64.	0.	118.	121.

OCTAVE FREQ	1	2	3	4	5
63	82.	92.	0.	151.	149.
125	79.	90.	0.	149.	152.
250	83.	86.	0.	148.	152.
500	84.	85.	0.	148.	152.
1000	87.	86.	0.	143.	153.
2000	87.	85.	0.	139.	150.
4000	87.	85.	0.	136.	144.
8000	82.	81.	0.	130.	140.
16000	73.	74.	0.	124.	128.

CONFIGURATION 41
PLUG FLOW CANTED PRIMARY MOD A
POWER SETTING 10
READING NO. 651

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	65.	65.	0.	137.	141.
63	69.	69.	0.	137.	141.
80	65.	65.	0.	142.	145.
100	65.	66.	0.	144.	147.
125	66.	67.	0.	138.	144.
160	68.	70.	0.	141.	142.
200	68.	67.	0.	136.	141.
250	69.	69.	0.	137.	142.
315	73.	72.	0.	140.	144.
400	74.	73.	0.	142.	142.
500	75.	75.	0.	136.	143.
630	77.	78.	0.	131.	142.
800	76.	78.	0.	132.	141.
1000	75.	76.	0.	133.	140.
1250	75.	74.	0.	130.	140.
1600	76.	75.	0.	130.	139.
2000	74.	74.	0.	129.	138.
2500	75.	74.	0.	129.	136.
3150	74.	74.	0.	129.	134.
4000	75.	76.	0.	125.	133.
5000	73.	72.	0.	123.	131.
6300	70.	71.	0.	121.	128.
8000	67.	68.	0.	119.	124.
10000	64.	65.	0.	115.	121.
12500	59.	61.	0.	112.	117.
16000	54.	56.	0.	109.	113.
20000	50.	50.	0.	107.	111.

OCTAVE FREQ	1	2	3	4	5
63	72.	72.	0.	144.	148.
125	71.	73.	0.	146.	150.
250	75.	75.	0.	143.	147.
500	80.	81.	0.	143.	147.
1000	80.	81.	0.	137.	145.
2000	80.	79.	0.	134.	143.
4000	79.	79.	0.	131.	138.
8000	72.	73.	0.	124.	130.
16000	61.	62.	0.	115.	119.

CONFIGURATION 41
PLUG FLOW CANTED PRIMARY MOD A
POWER SETTING 25
READING NO. 653

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	66.	65.	0.	138.	142.
63	68.	66.	0.	137.	142.
80	68.	66.	0.	144.	146.
100	67.	66.	0.	146.	146.
125	68.	68.	0.	140.	145.
160	69.	70.	0.	141.	143.
200	70.	69.	0.	136.	141.
250	70.	70.	0.	138.	142.
315	74.	73.	0.	142.	145.
400	75.	74.	0.	143.	143.
500	76.	77.	0.	140.	144.
630	79.	79.	0.	131.	142.
800	78.	79.	0.	133.	142.
1000	78.	78.	0.	135.	141.
1250	77.	76.	0.	131.	140.
1600	77.	77.	0.	131.	140.
2000	76.	75.	0.	131.	140.
2500	76.	76.	0.	130.	137.
3150	76.	76.	0.	129.	135.
4000	76.	78.	0.	125.	134.
5000	75.	76.	0.	123.	133.
6300	74.	74.	0.	122.	128.
8000	76.	72.	0.	119.	124.
10000	70.	69.	0.	115.	121.
12500	65.	65.	0.	111.	117.
16000	62.	62.	0.	108.	113.
20000	55.	55.	0.	107.	110.

OCTAVE FREQ					
63	72.	70.	0.	146.	149.
125	73.	73.	0.	148.	150.
250	77.	76.	0.	144.	148.
500	82.	82.	0.	145.	148.
1000	82.	83.	0.	138.	146.
2000	81.	81.	0.	135.	144.
4000	80.	82.	0.	131.	139.
8000	79.	77.	0.	124.	130.
16000	67.	67.	0.	114.	119.

CONFIGURATION 41
PLUG FLOW CANTED PRIMARY MOD A
POWER SETTING 40
READING NO. 654

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	65.	66.	0.	138.	142.
63	68.	70.	0.	139.	142.
80	65.	65.	0.	143.	145.
100	66.	67.	0.	145.	146.
125	68.	69.	0.	140.	145.
160	69.	70.	0.	142.	144.
200	71.	71.	0.	138.	143.
250	71.	72.	0.	139.	143.
315	74.	73.	0.	141.	145.
400	76.	75.	0.	145.	145.
500	78.	78.	0.	144.	146.
630	81.	81.	0.	133.	144.
800	79.	80.	0.	134.	143.
1000	79.	80.	0.	137.	142.
1250	79.	78.	0.	133.	141.
1600	78.	78.	0.	132.	141.
2000	77.	77.	0.	132.	140.
2500	78.	78.	0.	131.	139.
3150	77.	78.	0.	131.	135.
4000	77.	79.	0.	127.	135.
5000	82.	82.	0.	124.	135.
6300	74.	74.	0.	124.	130.
8000	77.	74.	0.	120.	125.
10000	80.	78.	0.	116.	123.
12500	66.	67.	0.	112.	119.
16000	64.	63.	0.	109.	114.
20000	57.	56.	0.	107.	111.
OCTAVE FREQ					
63	71.	72.	0.	145.	148.
125	73.	74.	0.	148.	150.
250	77.	77.	0.	144.	149.
500	84.	83.	0.	148.	150.
1000	84.	84.	0.	140.	147.
2000	82.	82.	0.	136.	145.
4000	84.	85.	0.	133.	140.
8000	82.	81.	0.	126.	132.
16000	68.	69.	0.	115.	121.

CONFIGURATION 41
PLUG FLOW CANTED PRIMARY MOD A
POWER SETTING 55
READING NO. 655

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	71.	0.	140.	144.
63	78.	79.	0.	139.	142.
80	67.	68.	0.	142.	146.
100	70.	70.	0.	146.	148.
125	78.	78.	0.	142.	146.
160	76.	75.	0.	143.	144.
200	79.	77.	0.	141.	144.
250	75.	76.	0.	141.	144.
315	79.	78.	0.	142.	146.
400	78.	78.	0.	145.	146.
500	79.	79.	0.	145.	147.
630	83.	83.	0.	135.	147.
800	81.	81.	0.	136.	145.
1000	81.	81.	0.	139.	143.
1250	82.	80.	0.	135.	143.
1600	80.	80.	0.	134.	142.
2000	80.	80.	0.	134.	142.
2500	84.	80.	0.	133.	141.
3150	79.	79.	0.	131.	137.
4000	79.	79.	0.	129.	136.
5000	78.	78.	0.	125.	136.
6300	75.	76.	0.	125.	133.
8000	78.	74.	0.	122.	128.
10000	75.	73.	0.	118.	124.
12500	69.	69.	0.	114.	120.
16000	66.	65.	0.	109.	116.
20000	60.	58.	0.	107.	112.
OCTAVE FREQ					
63	79.	80.	0.	145.	149.
125	81.	80.	0.	149.	151.
250	83.	82.	0.	146.	150.
500	85.	85.	0.	148.	151.
1000	86.	85.	0.	142.	149.
2000	87.	85.	0.	138.	146.
4000	83.	83.	0.	134.	141.
8000	81.	79.	0.	127.	135.
16000	71.	71.	0.	116.	122.

CONFIGURATION 41
PLUG FLOW CANTED PRIMARY MOD A
POWER SETTING 75
READING NO. 656

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	72.	72.	0.	141.	144.
63	80.	81.	0.	142.	143.
80	68.	68.	0.	143.	146.
100	70.	71.	0.	147.	148.
125	78.	77.	0.	142.	146.
160	74.	74.	0.	145.	145.
200	77.	76.	0.	143.	146.
250	77.	77.	0.	142.	146.
315	79.	79.	0.	145.	148.
400	78.	77.	0.	147.	147.
500	79.	79.	0.	148.	147.
630	85.	86.	0.	138.	149.
800	81.	82.	0.	138.	146.
1000	81.	82.	0.	141.	145.
1250	83.	81.	0.	138.	144.
1600	81.	80.	0.	138.	143.
2000	81.	81.	0.	136.	143.
2500	85.	81.	0.	135.	141.
3150	80.	80.	0.	132.	139.
4000	78.	81.	0.	130.	138.
5000	78.	79.	0.	125.	136.
6300	76.	77.	0.	127.	134.
8000	80.	76.	0.	123.	129.
10000	79.	75.	0.	119.	125.
12500	72.	71.	0.	119.	123.
16000	68.	66.	0.	117.	121.
20000	64.	61.	0.	117.	120.
OCTAVE FREQ					
63	81.	82.	0.	147.	149.
125	80.	79.	0.	150.	151.
250	83.	82.	0.	148.	152.
500	87.	87.	0.	151.	153.
1000	87.	86.	0.	144.	150.
2000	88.	85.	0.	141.	147.
4000	84.	85.	0.	135.	143.
8000	83.	81.	0.	129.	136.
16000	74.	73.	0.	123.	126.

CONFIGURATION 41
PLUG FLOW CANTED PRIMARY MOD A
POWER SETTING 100
READING NO. 657

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	72.	72.	0.	143.	147.
63	80.	80.	0.	140.	145.
80	68.	67.	0.	142.	146.
100	70.	71.	0.	146.	148.
125	77.	77.	0.	143.	149.
160	75.	75.	0.	145.	148.
200	77.	77.	0.	145.	148.
250	77.	77.	0.	143.	146.
315	79.	79.	0.	146.	148.
400	78.	77.	0.	145.	147.
500	82.	81.	0.	150.	148.
630	86.	85.	0.	140.	150.
800	82.	82.	0.	138.	146.
1000	82.	82.	0.	141.	147.
1250	83.	83.	0.	139.	146.
1600	83.	82.	0.	135.	145.
2000	82.	82.	0.	135.	144.
2500	82.	84.	0.	133.	143.
3150	82.	81.	0.	132.	141.
4000	81.	81.	0.	130.	139.
5000	81.	79.	0.	127.	137.
6300	79.	79.	0.	128.	136.
8000	82.	77.	0.	121.	131.
10000	82.	76.	0.	119.	126.
12500	79.	72.	0.	119.	124.
16000	76.	70.	0.	117.	122.
20000	69.	63.	0.	117.	120.

OCTAVE FREQ	1	2	3	4	5
63	81.	81.	0.	147.	151.
125	80.	80.	0.	150.	153.
250	83.	83.	0.	150.	152.
500	88.	87.	0.	152.	153.
1000	87.	87.	0.	144.	151.
2000	87.	88.	0.	139.	149.
4000	86.	85.	0.	135.	144.
8000	86.	82.	0.	129.	138.
16000	81.	74.	0.	123.	127.

CONFIGURATION 42
T63-A-5A BASELINE (1ST REPEAT)
POWER SETTING 10
READING NO. 658

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	68.	65.	69.	0.	0.
63	69.	69.	68.	0.	0.
80	66.	66.	68.	0.	0.
100	66.	68.	70.	0.	0.
125	69.	69.	71.	0.	0.
160	70.	69.	71.	0.	0.
200	69.	68.	70.	0.	0.
250	71.	70.	72.	0.	0.
315	73.	73.	76.	0.	0.
400	74.	72.	76.	0.	0.
500	75.	76.	77.	0.	0.
630	76.	77.	77.	0.	0.
800	76.	76.	77.	0.	0.
1000	77.	76.	76.	0.	0.
1250	76.	75.	75.	0.	0.
1600	76.	76.	75.	0.	0.
2000	75.	75.	75.	0.	0.
2500	76.	75.	75.	0.	0.
3150	77.	76.	75.	0.	0.
4000	78.	76.	75.	0.	0.
5000	73.	71.	71.	0.	0.
6300	71.	70.	68.	0.	0.
8000	68.	68.	66.	0.	0.
10000	63.	64.	61.	0.	0.
12500	58.	58.	56.	0.	0.
16000	54.	53.	53.	0.	0.
20000	50.	49.	51.	0.	0.
OCTAVE FREQ					
63	73.	72.	73.	0.	0.
125	73.	73.	75.	0.	0.
250	76.	76.	78.	0.	0.
500	80.	80.	81.	0.	0.
1000	81.	80.	81.	0.	0.
2000	80.	80.	80.	0.	0.
4000	81.	80.	79.	0.	0.
8000	73.	73.	71.	0.	0.
16000	60.	60.	59.	0.	0.

CONFIGURATION 42
T63-A-5A BASELINE (1ST REPEAT)
POWER SETTING 25
READING NO. 659

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	66.	66.	67.	0.	0.
63	70.	69.	70.	0.	0.
80	68.	68.	69.	0.	0.
100	67.	68.	70.	0.	0.
125	69.	68.	70.	0.	0.
160	70.	70.	72.	0.	0.
200	69.	70.	71.	0.	0.
250	71.	71.	72.	0.	0.
315	72.	73.	75.	0.	0.
400	73.	72.	74.	0.	0.
500	75.	76.	76.	0.	0.
630	77.	78.	78.	0.	0.
800	77.	77.	78.	0.	0.
1000	77.	77.	79.	0.	0.
1250	76.	76.	76.	0.	0.
1600	77.	77.	77.	0.	0.
2000	77.	77.	77.	0.	0.
2500	77.	77.	77.	0.	0.
3150	78.	78.	77.	0.	0.
4000	78.	78.	77.	0.	0.
5000	75.	74.	72.	0.	0.
6300	72.	72.	70.	0.	0.
8000	69.	69.	67.	0.	0.
10000	64.	65.	62.	0.	0.
12500	59.	59.	57.	0.	0.
16000	55.	54.	54.	0.	0.
20000	50.	50.	51.	0.	0.
OCTAVE FREQ					
63	73.	73.	74.	0.	0.
125	74.	74.	76.	0.	0.
250	76.	76.	78.	0.	0.
500	80.	81.	81.	0.	0.
1000	81.	81.	83.	0.	0.
2000	82.	82.	82.	0.	0.
4000	82.	82.	81.	0.	0.
8000	74.	74.	72.	0.	0.
16000	61.	61.	59.	0.	0.

CONFIGURATION 42
T63-A-5A BASELINE (1ST REPEAT)
POWER SETTING 40
READING NO. 660

1/3 OCT FREQ	MICROPHCNE PCSITICN 1	2	3	4	5
50	69.	69.	70.	0.	0.
63	70.	70.	71.	0.	0.
80	69.	70.	71.	0.	0.
100	69.	71.	72.	0.	0.
125	69.	70.	71.	0.	0.
160	71.	69.	72.	0.	0.
200	71.	70.	72.	0.	0.
250	72.	72.	73.	0.	0.
315	73.	74.	76.	0.	0.
400	73.	73.	76.	0.	0.
500	76.	77.	77.	0.	0.
630	78.	79.	78.	0.	0.
800	78.	78.	81.	0.	0.
1000	79.	79.	80.	0.	0.
1250	78.	78.	77.	0.	0.
1600	80.	80.	79.	0.	0.
2000	80.	80.	80.	0.	0.
2500	79.	79.	78.	0.	0.
3150	81.	81.	80.	0.	0.
4000	80.	81.	80.	0.	0.
5000	78.	76.	76.	0.	0.
6300	74.	75.	72.	0.	0.
8000	74.	71.	70.	0.	0.
10000	68.	68.	66.	0.	0.
12500	63.	63.	60.	0.	0.
16000	59.	58.	56.	0.	0.
20000	54.	52.	51.	0.	0.

OCTAVE FREQ	1	2	3	4	5
63	74.	74.	75.	0.	0.
125	75.	75.	76.	0.	0.
250	77.	77.	79.	0.	0.
500	81.	82.	82.	0.	0.
1000	83.	83.	84.	0.	0.
2000	84.	84.	84.	0.	0.
4000	85.	85.	84.	0.	0.
8000	78.	77.	75.	0.	0.
16000	65.	64.	62.	0.	0.

CONFIGURATION 42
T63-A-5A BASELINE (1ST REPEAT)
POWER SETTING 55
READING NO. 661

		MICROPHCNE	POSITION		
1/3 OCT FREQ	1	2	3	4	5
50	71.	70.	62.	0.	0.
63	77.	78.	69.	0.	0.
80	70.	69.	62.	0.	0.
100	70.	70.	63.	0.	0.
125	76.	72.	66.	0.	0.
160	73.	72.	65.	0.	0.
200	73.	74.	65.	0.	0.
250	76.	75.	66.	0.	0.
315	77.	78.	69.	0.	0.
400	76.	77.	68.	0.	0.
500	78.	79.	71.	0.	0.
630	80.	81.	70.	0.	0.
800	79.	80.	70.	0.	0.
1000	81.	80.	71.	0.	0.
1250	85.	87.	81.	0.	0.
1600	90.	87.	86.	0.	0.
2000	83.	82.	74.	0.	0.
2500	82.	84.	74.	0.	0.
3150	83.	82.	75.	0.	0.
4000	81.	81.	72.	0.	0.
5000	80.	78.	69.	0.	0.
6300	76.	77.	66.	0.	0.
8000	76.	75.	65.	0.	0.
10000	71.	71.	59.	0.	0.
12500	64.	64.	54.	0.	0.
16000	60.	58.	51.	0.	0.
20000	55.	53.	50.	0.	0.
OCTAVE FREQ					
63	79.	79.	70.	0.	0.
125	78.	76.	70.	0.	0.
250	80.	81.	72.	0.	0.
500	83.	84.	75.	0.	0.
1000	87.	88.	82.	0.	0.
2000	91.	90.	87.	0.	0.
4000	86.	85.	77.	0.	0.
8000	80.	80.	69.	0.	0.
16000	66.	65.	57.	0.	0.

CONFIGURATION 42
T63-A-5A BASELINE (1ST REPEAT)
POWER SETTING 75
READING NO. 662

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	72.	72.	73.	0.	0.
63	78.	79.	81.	0.	0.
80	68.	70.	71.	0.	0.
100	71.	73.	74.	0.	0.
125	76.	72.	76.	0.	0.
160	74.	74.	75.	0.	0.
200	74.	75.	76.	0.	0.
250	77.	76.	77.	0.	0.
315	78.	78.	80.	0.	0.
400	78.	77.	79.	0.	0.
500	81.	82.	81.	0.	0.
630	81.	83.	80.	0.	0.
800	80.	81.	81.	0.	0.
1000	81.	81.	81.	0.	0.
1250	85.	84.	95.	0.	0.
1600	92.	91.	96.	0.	0.
2000	86.	86.	82.	0.	0.
2500	86.	84.	85.	0.	0.
3150	86.	88.	86.	0.	0.
4000	84.	85.	82.	0.	0.
5000	81.	81.	80.	0.	0.
6300	78.	80.	79.	0.	0.
8000	77.	76.	77.	0.	0.
10000	70.	71.	70.	0.	0.
12500	66.	67.	65.	0.	0.
16000	62.	62.	62.	0.	0.
20000	60.	59.	60.	0.	0.
OCTAVE FREQ					
63	79.	80.	82.	0.	0.
125	79.	78.	80.	0.	0.
250	81.	81.	83.	0.	0.
500	85.	86.	85.	0.	0.
1000	87.	87.	95.	0.	0.
2000	94.	93.	96.	0.	0.
4000	89.	90.	88.	0.	0.
8000	81.	82.	81.	0.	0.
16000	68.	69.	68.	0.	0.

CONFIGURATION 42
T63-A-5A BASELINE (1ST REPEAT)
POWER SETTING 100
READING NO. 663

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	72.	74.	75.	0.	0.
63	76.	78.	80.	0.	0.
80	68.	71.	72.	0.	0.
100	71.	72.	74.	0.	0.
125	74.	73.	76.	0.	0.
160	74.	75.	76.	0.	0.
200	75.	75.	77.	0.	0.
250	78.	77.	78.	0.	0.
315	79.	79.	81.	0.	0.
400	77.	78.	79.	0.	0.
500	79.	80.	82.	0.	0.
630	80.	81.	81.	0.	0.
800	81.	81.	81.	0.	0.
1000	82.	82.	83.	0.	0.
1250	91.	88.	94.	0.	0.
1600	94.	91.	99.	0.	0.
2000	82.	84.	83.	0.	0.
2500	85.	85.	87.	0.	0.
3150	86.	87.	88.	0.	0.
4000	84.	84.	85.	0.	0.
5000	83.	82.	82.	0.	0.
6300	80.	81.	80.	0.	0.
8000	77.	77.	77.	0.	0.
10000	71.	72.	71.	0.	0.
12500	67.	68.	67.	0.	0.
16000	63.	62.	63.	0.	0.
20000	60.	59.	60.	0.	0.
OCTAVE FREQ					
63	78.	80.	82.	0.	0.
125	78.	78.	80.	0.	0.
250	82.	82.	84.	0.	0.
500	84.	85.	86.	0.	0.
1000	92.	90.	95.	0.	0.
2000	95.	93.	99.	0.	0.
4000	89.	90.	90.	0.	0.
8000	82.	83.	82.	0.	0.
16000	69.	69.	69.	0.	0.

CONFIGURATION 43
FINAL PRECHAMBER WALL FUEL FILM INITIAL DESIGN
POWER SETTING 10
READING NO. 684

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	67.	0.	71.	0.	0.
63	70.	0.	84.	0.	0.
80	68.	0.	61.	0.	0.
100	68.	0.	54.	0.	0.
125	70.	0.	59.	0.	0.
160	69.	0.	67.	0.	0.
200	68.	0.	72.	0.	0.
250	70.	0.	61.	0.	0.
315	72.	0.	70.	0.	0.
400	72.	0.	60.	0.	0.
500	74.	0.	67.	0.	0.
630	75.	0.	70.	0.	0.
800	75.	0.	63.	0.	0.
1000	76.	0.	69.	0.	0.
1250	75.	0.	65.	0.	0.
1600	77.	0.	65.	0.	0.
2000	76.	0.	65.	0.	0.
2500	76.	0.	64.	0.	0.
3150	77.	0.	64.	0.	0.
4000	77.	0.	63.	0.	0.
5000	76.	0.	60.	0.	0.
6300	72.	0.	59.	0.	0.
8000	69.	0.	57.	0.	0.
10000	66.	0.	54.	0.	0.
12500	62.	0.	54.	0.	0.
16000	57.	0.	51.	0.	0.
20000	52.	0.	51.	0.	0.
OCTAVE FREQ					
63	73.	0.	84.	0.	0.
125	74.	0.	68.	0.	0.
250	75.	0.	74.	0.	0.
500	79.	0.	72.	0.	0.
1000	80.	0.	71.	0.	0.
2000	81.	0.	69.	0.	0.
4000	81.	0.	67.	0.	0.
8000	74.	0.	62.	0.	0.
16000	64.	0.	57.	0.	0.

CONFIGURATION 43
FINAL PRECHAMBER WALL FUEL FILM INITIAL DESIGN
POWER SETTING 25
READING NO. 665

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	67.	0.	66.	0.	0.
63	69.	0.	70.	0.	0.
80	65.	0.	64.	0.	0.
100	67.	0.	65.	0.	0.
125	70.	0.	70.	0.	0.
160	69.	0.	70.	0.	0.
200	70.	0.	70.	0.	0.
250	74.	0.	74.	0.	0.
315	75.	0.	76.	0.	0.
400	74.	0.	75.	0.	0.
500	76.	0.	77.	0.	0.
630	77.	0.	77.	0.	0.
800	77.	0.	77.	0.	0.
1000	77.	0.	77.	0.	0.
1250	77.	0.	74.	0.	0.
1600	79.	0.	77.	0.	0.
2000	79.	0.	77.	0.	0.
2500	79.	0.	76.	0.	0.
3150	80.	0.	77.	0.	0.
4000	79.	0.	76.	0.	0.
5000	78.	0.	74.	0.	0.
6300	74.	0.	70.	0.	0.
8000	72.	0.	68.	0.	0.
10000	68.	0.	65.	0.	0.
12500	64.	0.	62.	0.	0.
16000	60.	0.	58.	0.	0.
20000	54.	0.	54.	0.	0.
OCTAVE FREQ					
63	72.	0.	72.	0.	0.
125	74.	0.	74.	0.	0.
250	78.	0.	79.	0.	0.
500	81.	0.	81.	0.	0.
1000	82.	0.	81.	0.	0.
2000	84.	0.	81.	0.	0.
4000	84.	0.	81.	0.	0.
8000	77.	0.	73.	0.	0.
16000	66.	0.	64.	0.	0.

CONFIGURATION 43
FINAL PRECHAMBER WALL FUEL FILM INITIAL DESIGN
POWER SETTING 25
READING NO. 666

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	0.	68.	0.	0.
63	69.	0.	69.	0.	0.
80	65.	0.	65.	0.	0.
100	68.	0.	67.	0.	0.
125	69.	0.	69.	0.	0.
160	70.	0.	71.	0.	0.
200	71.	0.	70.	0.	0.
250	74.	0.	74.	0.	0.
315	75.	0.	76.	0.	0.
400	74.	0.	75.	0.	0.
500	77.	0.	77.	0.	0.
630	78.	0.	78.	0.	0.
800	78.	0.	77.	0.	0.
1000	78.	0.	77.	0.	0.
1250	79.	0.	75.	0.	0.
1600	81.	0.	78.	0.	0.
2000	80.	0.	79.	0.	0.
2500	79.	0.	77.	0.	0.
3150	82.	0.	78.	0.	0.
4000	79.	0.	77.	0.	0.
5000	79.	0.	75.	0.	0.
6300	75.	0.	72.	0.	0.
8000	73.	0.	69.	0.	0.
10000	71.	0.	67.	0.	0.
12500	66.	0.	64.	0.	0.
16000	62.	0.	61.	0.	0.
20000	56.	0.	56.	0.	0.
OCTAVE FREQ					
63	73.	0.	72.	0.	0.
125	74.	0.	74.	0.	0.
250	78.	0.	79.	0.	0.
500	81.	0.	82.	0.	0.
1000	83.	0.	81.	0.	0.
2000	85.	0.	83.	0.	0.
4000	85.	0.	82.	0.	0.
8000	78.	0.	75.	0.	0.
16000	68.	0.	66.	0.	0.

CONFIGURATION 43
FINAL PRECHAMBER WALL FUEL FILM INITIAL DESIGN
POWER SETTING 55
READING NO. 687

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	0.	78.	0.	0.
63	79.	0.	85.	0.	0.
80	65.	0.	77.	0.	0.
100	69.	0.	78.	0.	0.
125	72.	0.	81.	0.	0.
160	73.	0.	82.	0.	0.
200	73.	0.	82.	0.	0.
250	76.	0.	86.	0.	0.
315	79.	0.	89.	0.	0.
400	78.	0.	87.	0.	0.
500	79.	0.	88.	0.	0.
630	80.	0.	90.	0.	0.
800	80.	0.	89.	0.	0.
1000	80.	0.	88.	0.	0.
1250	79.	0.	87.	0.	0.
1600	82.	0.	89.	0.	0.
2000	81.	0.	90.	0.	0.
2500	81.	0.	90.	0.	0.
3150	83.	0.	90.	0.	0.
4000	81.	0.	88.	0.	0.
5000	80.	0.	86.	0.	0.
6300	77.	0.	83.	0.	0.
8000	76.	0.	82.	0.	0.
10000	74.	0.	79.	0.	0.
12500	68.	0.	76.	0.	0.
16000	64.	0.	72.	0.	0.
20000	59.	0.	67.	0.	0.
OCTAVE FREQ					
63	80.	0.	86.	0.	0.
125	76.	0.	85.	0.	0.
250	81.	0.	91.	0.	0.
500	84.	0.	93.	0.	0.
1000	84.	0.	93.	0.	0.
2000	86.	0.	94.	0.	0.
4000	86.	0.	93.	0.	0.
8000	81.	0.	86.	0.	0.
16000	70.	0.	78.	0.	0.

CONFIGURATION 43
FINAL PRECHAMBER WALL FUEL FILM INITIAL DESIGN
POWER SETTING 75
READING NO. 688

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.	0.	68.	0.	0.
63	78.	0.	75.	0.	0.
80	68.	0.	67.	0.	0.
100	70.	0.	70.	0.	0.
125	72.	0.	71.	0.	0.
160	74.	0.	74.	0.	0.
200	75.	0.	74.	0.	0.
250	78.	0.	76.	0.	0.
315	79.	0.	80.	0.	0.
400	77.	0.	77.	0.	0.
500	78.	0.	78.	0.	0.
630	80.	0.	79.	0.	0.
800	79.	0.	80.	0.	0.
1000	80.	0.	79.	0.	0.
1250	80.	0.	78.	0.	0.
1600	82.	0.	80.	0.	0.
2000	82.	0.	80.	0.	0.
2500	82.	0.	80.	0.	0.
3150	83.	0.	81.	0.	0.
4000	80.	0.	78.	0.	0.
5000	81.	0.	78.	0.	0.
6300	78.	0.	75.	0.	0.
8000	77.	0.	72.	0.	0.
10000	75.	0.	70.	0.	0.
12500	71.	0.	67.	0.	0.
16000	67.	0.	64.	0.	0.
20000	63.	0.	59.	0.	0.
OCTAVE FREQ					
63	79.	0.	76.	0.	0.
125	77.	0.	77.	0.	0.
250	82.	0.	82.	0.	0.
500	83.	0.	83.	0.	0.
1000	84.	0.	84.	0.	0.
2000	87.	0.	85.	0.	0.
4000	86.	0.	84.	0.	0.
8000	82.	0.	78.	0.	0.
16000	73.	0.	69.	0.	0.

CONFIGURATION 43
FINAL PRECHAMBER WALL FUEL FILM INITIAL DESIGN
POWER SETTING 100
READING NO. 685

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	71.	0.	69.	0.	0.
63	79.	0.	76.	0.	0.
80	70.	0.	69.	0.	0.
100	70.	0.	70.	0.	0.
125	73.	0.	73.	0.	0.
160	74.	0.	75.	0.	0.
200	75.	0.	75.	0.	0.
250	77.	0.	78.	0.	0.
315	79.	0.	79.	0.	0.
400	77.	0.	77.	0.	0.
500	79.	0.	78.	0.	0.
630	81.	0.	80.	0.	0.
800	79.	0.	79.	0.	0.
1000	80.	0.	80.	0.	0.
1250	80.	0.	79.	0.	0.
1600	82.	0.	80.	0.	0.
2000	82.	0.	80.	0.	0.
2500	81.	0.	82.	0.	0.
3150	84.	0.	81.	0.	0.
4000	82.	0.	80.	0.	0.
5000	81.	0.	78.	0.	0.
6300	80.	0.	76.	0.	0.
8000	79.	0.	74.	0.	0.
10000	76.	0.	71.	0.	0.
12500	72.	0.	68.	0.	0.
16000	69.	0.	66.	0.	0.
20000	65.	0.	61.	0.	0.
OCTAVE FREQ					
63	80.	0.	77.	0.	0.
125	77.	0.	78.	0.	0.
250	82.	0.	82.	0.	0.
500	84.	0.	83.	0.	0.
1000	84.	0.	84.	0.	0.
2000	86.	0.	86.	0.	0.
4000	87.	0.	85.	0.	0.
8000	83.	0.	79.	0.	0.
16000	74.	0.	71.	0.	0.

CONFIGURATION 44
FINAL PRECHAMBER PRESSURE ATOMIZED INITIAL DESIGN
POWER SETTING 10
READING NO. 692

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	65.	64.	65.	0.	0.
63	69.	67.	68.	0.	0.
80	69.	66.	68.	0.	0.
100	67.	65.	66.	0.	0.
125	69.	67.	70.	0.	0.
160	72.	71.	78.	0.	0.
200	70.	67.	70.	0.	0.
250	72.	69.	70.	0.	0.
315	74.	74.	74.	0.	0.
400	74.	72.	73.	0.	0.
500	78.	76.	74.	0.	0.
630	78.	77.	77.	0.	0.
800	78.	76.	76.	0.	0.
1000	78.	76.	75.	0.	0.
1250	76.	74.	74.	0.	0.
1600	77.	76.	75.	0.	0.
2000	76.	74.	74.	0.	0.
2500	76.	75.	75.	0.	0.
3150	79.	77.	75.	0.	0.
4000	78.	75.	75.	0.	0.
5000	77.	74.	72.	0.	0.
6300	73.	72.	69.	0.	0.
8000	70.	70.	66.	0.	0.
10000	68.	68.	64.	0.	0.
12500	63.	65.	60.	0.	0.
16000	58.	62.	57.	0.	0.
20000	53.	56.	53.	0.	0.

OCTAVE FREQ	1	2	3	4	5
63	73.	71.	72.	0.	0.
125	75.	73.	79.	0.	0.
250	77.	76.	77.	0.	0.
500	82.	80.	80.	0.	0.
1000	82.	80.	80.	0.	0.
2000	81.	80.	79.	0.	0.
4000	83.	80.	79.	0.	0.
8000	76.	75.	72.	0.	0.
16000	65.	67.	62.	0.	0.

CONFIGURATION 44
FINAL PRECHAMBER PRESSURE ATOMIZED INITIAL DESIGN
POWER SETTING 25
READING NO. 695

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	65.	66.	0.	0.
63	69.	68.	69.	0.	0.
80	69.	67.	68.	0.	0.
100	67.	65.	66.	0.	0.
125	69.	68.	69.	0.	0.
160	74.	70.	72.	0.	0.
200	71.	69.	71.	0.	0.
250	73.	72.	73.	0.	0.
315	74.	73.	74.	0.	0.
400	74.	72.	75.	0.	0.
500	77.	75.	77.	0.	0.
630	78.	77.	78.	0.	0.
800	78.	76.	78.	0.	0.
1000	78.	77.	77.	0.	0.
1250	77.	75.	75.	0.	0.
1600	79.	77.	76.	0.	0.
2000	79.	78.	77.	0.	0.
2500	78.	77.	77.	0.	0.
3150	81.	79.	77.	0.	0.
4000	79.	77.	76.	0.	0.
5000	79.	76.	74.	0.	0.
6300	74.	74.	71.	0.	0.
8000	72.	72.	68.	0.	0.
10000	70.	70.	66.	0.	0.
12500	65.	67.	62.	0.	0.
16000	60.	64.	59.	0.	0.
20000	55.	58.	54.	0.	0.

OCTAVE FREQ	1	2	3	4	5
63	73.	72.	73.	0.	0.
125	76.	73.	74.	0.	0.
250	78.	76.	78.	0.	0.
500	81.	80.	82.	0.	0.
1000	82.	81.	82.	0.	0.
2000	83.	82.	81.	0.	0.
4000	85.	82.	81.	0.	0.
8000	77.	77.	74.	0.	0.
16000	67.	69.	64.	0.	0.

CONFIGURATION 44
FINAL PRECHAMBER PRESSURE ATOMIZED INITIAL DESIGN
POWER SETTING 40
READING NO. 656

		MICROPHONE POSITION			
1/3 OCT FREQ	1	2	3	4	5
50	70.	68.	69.	0.	0.
63	70.	69.	69.	0.	0.
80	67.	66.	67.	0.	0.
100	68.	66.	68.	0.	0.
125	70.	68.	69.	0.	0.
160	77.	72.	75.	0.	0.
200	71.	70.	71.	0.	0.
250	74.	73.	72.	0.	0.
315	75.	73.	75.	0.	0.
400	75.	72.	74.	0.	0.
500	78.	77.	77.	0.	0.
630	80.	79.	80.	0.	0.
800	79.	78.	79.	0.	0.
1000	78.	77.	77.	0.	0.
1250	78.	76.	76.	0.	0.
1600	81.	78.	78.	0.	0.
2000	80.	79.	79.	0.	0.
2500	78.	77.	77.	0.	0.
3150	81.	79.	78.	0.	0.
4000	79.	77.	76.	0.	0.
5000	79.	77.	74.	0.	0.
6300	75.	74.	72.	0.	0.
8000	72.	72.	68.	0.	0.
10000	70.	71.	66.	0.	0.
12500	66.	69.	63.	0.	0.
16000	61.	65.	60.	0.	0.
20000	55.	59.	55.	0.	0.
OCTAVE FREQ					
63	74.	73.	73.	0.	0.
125	78.	74.	77.	0.	0.
250	78.	77.	78.	0.	0.
500	83.	82.	82.	0.	0.
1000	83.	82.	82.	0.	0.
2000	85.	83.	83.	0.	0.
4000	85.	83.	81.	0.	0.
8000	78.	77.	74.	0.	0.
16000	67.	71.	65.	0.	0.

CONFIGURATION 44
FINAL PRECHAMBER PRESSURE ATOMIZED INITIAL DESIGN
POWER SETTING 55
READING NO. 697

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	72.	71.	72.	0.	0.
63	77.	77.	78.	0.	0.
80	69.	68.	69.	0.	0.
100	69.	70.	70.	0.	0.
125	72.	72.	72.	0.	0.
160	83.	80.	78.	0.	0.
200	75.	74.	75.	0.	0.
250	76.	76.	76.	0.	0.
315	80.	81.	79.	0.	0.
400	78.	76.	77.	0.	0.
500	83.	79.	80.	0.	0.
630	83.	82.	82.	0.	0.
800	80.	80.	80.	0.	0.
1000	81.	81.	80.	0.	0.
1250	93.	92.	93.	0.	0.
1600	87.	87.	86.	0.	0.
2000	81.	81.	80.	0.	0.
2500	84.	85.	85.	0.	0.
3150	83.	82.	81.	0.	0.
4000	81.	81.	79.	0.	0.
5000	81.	80.	78.	0.	0.
6300	79.	79.	77.	0.	0.
8000	75.	76.	74.	0.	0.
10000	73.	73.	70.	0.	0.
12500	69.	71.	68.	0.	0.
16000	65.	67.	64.	0.	0.
20000	61.	62.	61.	0.	0.
OCTAVE FREQ					
63	79.	78.	79.	0.	0.
125	83.	81.	79.	0.	0.
250	82.	83.	82.	0.	0.
500	87.	84.	85.	0.	0.
1000	93.	93.	93.	0.	0.
2000	89.	90.	89.	0.	0.
4000	87.	86.	84.	0.	0.
8000	81.	81.	79.	0.	0.
16000	71.	73.	70.	0.	0.

CONFIGURATION 44
FINAL PRECHAMBER PRESSURE ATOMIZED INITIAL DESIGN
POWER SETTING 75
READING NO. 658

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	71.	70.	72.	0.	0.
63	79.	76.	79.	0.	0.
80	69.	69.	71.	0.	0.
100	73.	73.	74.	0.	0.
125	75.	73.	76.	0.	0.
160	79.	76.	78.	0.	0.
200	76.	75.	77.	0.	0.
250	78.	76.	78.	0.	0.
315	79.	78.	80.	0.	0.
400	79.	77.	78.	0.	0.
500	81.	79.	81.	0.	0.
630	82.	79.	81.	0.	0.
800	81.	79.	82.	0.	0.
1000	82.	80.	81.	0.	0.
1250	90.	90.	84.	0.	0.
1600	94.	93.	95.	0.	0.
2000	83.	80.	83.	0.	0.
2500	84.	82.	83.	0.	0.
3150	88.	85.	88.	0.	0.
4000	83.	82.	83.	0.	0.
5000	82.	81.	80.	0.	0.
6300	82.	81.	83.	0.	0.
8000	79.	79.	82.	0.	0.
10000	75.	76.	74.	0.	0.
12500	72.	73.	71.	0.	0.
16000	68.	70.	67.	0.	0.
20000	63.	62.	63.	0.	0.
OCTAVE FREQ					
63	80.	78.	80.	0.	0.
125	81.	79.	81.	0.	0.
250	83.	81.	83.	0.	0.
500	86.	83.	85.	0.	0.
1000	91.	91.	87.	0.	0.
2000	95.	94.	96.	0.	0.
4000	90.	88.	90.	0.	0.
8000	84.	84.	86.	0.	0.
16000	74.	75.	73.	0.	0.

CONFIGURATION 44
FINAL PRECHAMBER PRESSURE ATOMIZED INITIAL DESIGN
POWER SETTING 100
READING NO. 699

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	76.	75.	71.	0.	0.
63	79.	78.	78.	0.	0.
80	73.	72.	71.	0.	0.
100	76.	75.	74.	0.	0.
125	76.	74.	74.	0.	0.
160	79.	76.	77.	0.	0.
200	75.	74.	77.	0.	0.
250	78.	76.	78.	0.	0.
315	79.	79.	80.	0.	0.
400	78.	77.	78.	0.	0.
500	80.	79.	81.	0.	0.
630	82.	80.	81.	0.	0.
800	81.	79.	81.	0.	0.
1000	81.	80.	81.	0.	0.
1250	88.	84.	84.	0.	0.
1600	97.	92.	94.	0.	0.
2000	85.	84.	87.	0.	0.
2500	84.	83.	85.	0.	0.
3150	88.	88.	88.	0.	0.
4000	84.	86.	85.	0.	0.
5000	82.	81.	80.	0.	0.
6300	83.	82.	82.	0.	0.
8000	79.	78.	78.	0.	0.
10000	75.	76.	74.	0.	0.
12500	72.	73.	70.	0.	0.
16000	67.	70.	67.	0.	0.
20000	62.	63.	62.	0.	0.
OCTAVE FREQ					
63	81.	80.	79.	0.	0.
125	82.	80.	80.	0.	0.
250	82.	82.	83.	0.	0.
500	85.	84.	85.	0.	0.
1000	89.	86.	87.	0.	0.
2000	97.	93.	95.	0.	0.
4000	90.	91.	90.	0.	0.
8000	85.	84.	84.	0.	0.
16000	74.	75.	72.	0.	0.

CONFIGURATION 45
FINAL MODIFIED CONVENTIONAL INITIAL DESIGN 0/0 OPEN DZ = 46
POWER SETTING 10
READING NO. 723

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	66.	66.	64.	0.	0.
63	69.	68.	67.	0.	0.
80	65.	65.	64.	0.	0.
100	66.	66.	67.	0.	0.
125	69.	67.	68.	0.	0.
160	69.	69.	68.	0.	0.
200	69.	68.	69.	0.	0.
250	72.	70.	70.	0.	0.
315	73.	72.	74.	0.	0.
400	73.	72.	72.	0.	0.
500	76.	75.	75.	0.	0.
630	76.	75.	75.	0.	0.
800	76.	76.	74.	0.	0.
1000	75.	73.	74.	0.	0.
1250	74.	73.	73.	0.	0.
1600	76.	74.	74.	0.	0.
2000	74.	73.	73.	0.	0.
2500	75.	74.	73.	0.	0.
3150	76.	74.	73.	0.	0.
4000	75.	74.	73.	0.	0.
5000	73.	70.	69.	0.	0.
6300	70.	68.	65.	0.	0.
8000	68.	67.	64.	0.	0.
10000	66.	66.	61.	0.	0.
12500	60.	62.	57.	0.	0.
16000	55.	60.	56.	0.	0.
20000	51.	52.	52.	0.	0.
OCTAVE FREQ					
63	72.	71.	70.	0.	0.
125	73.	72.	72.	0.	0.
250	76.	75.	76.	0.	0.
500	80.	79.	79.	0.	0.
1000	80.	79.	78.	0.	0.
2000	80.	78.	78.	0.	0.
4000	80.	78.	77.	0.	0.
8000	73.	72.	68.	0.	0.
16000	62.	64.	60.	0.	0.

CONFIGURATION 45
FINAL MODIFIED CONVENTIONAL INITIAL DESIGN 0/0 OPEN DZ = 46
POWER SETTING 25
READING NO. 724

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	67.	65.	66.	0.	0.
63	69.	67.	67.	0.	0.
80	66.	64.	66.	0.	0.
100	67.	66.	67.	0.	0.
125	69.	68.	68.	0.	0.
160	70.	68.	70.	0.	0.
200	70.	69.	69.	0.	0.
250	73.	71.	71.	0.	0.
315	74.	72.	74.	0.	0.
400	74.	73.	73.	0.	0.
500	77.	76.	76.	0.	0.
630	77.	76.	76.	0.	0.
800	78.	77.	76.	0.	0.
1000	77.	76.	76.	0.	0.
1250	76.	74.	75.	0.	0.
1600	78.	76.	77.	0.	0.
2000	78.	76.	77.	0.	0.
2500	77.	76.	75.	0.	0.
3150	78.	76.	76.	0.	0.
4000	77.	76.	75.	0.	0.
5000	75.	72.	71.	0.	0.
6300	71.	71.	69.	0.	0.
8000	69.	69.	66.	0.	0.
10000	67.	68.	65.	0.	0.
12500	62.	64.	62.	0.	0.
16000	57.	61.	59.	0.	0.
20000	53.	55.	56.	0.	0.

OCTAVE FREQ	1	2	3	4	5
63	72.	70.	71.	0.	0.
125	74.	72.	73.	0.	0.
250	77.	76.	77.	0.	0.
500	81.	80.	80.	0.	0.
1000	82.	81.	80.	0.	0.
2000	82.	81.	81.	0.	0.
4000	82.	80.	79.	0.	0.
8000	74.	74.	72.	0.	0.
16000	64.	66.	64.	0.	0.

CONFIGURATION 45
FINAL MODIFIED CONVENTIONAL INITIAL DESIGN O/O CPEN DZ = 46
POWER SETTING 40
READING NO. 727

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	68.	66.	68.	0.	0.
63	71.	68.	69.	0.	0.
80	68.	67.	67.	0.	0.
100	69.	69.	69.	0.	0.
125	71.	69.	71.	0.	0.
160	72.	71.	73.	0.	0.
200	73.	72.	73.	0.	0.
250	74.	72.	73.	0.	0.
315	75.	74.	76.	0.	0.
400	76.	73.	75.	0.	0.
500	79.	77.	80.	0.	0.
630	78.	77.	77.	0.	0.
800	79.	77.	77.	0.	0.
1000	79.	78.	77.	0.	0.
1250	76.	75.	75.	0.	0.
1600	80.	78.	78.	0.	0.
2000	79.	78.	78.	0.	0.
2500	78.	76.	76.	0.	0.
3150	80.	78.	77.	0.	0.
4000	79.	77.	75.	0.	0.
5000	76.	74.	72.	0.	0.
6300	72.	71.	68.	0.	0.
8000	72.	71.	67.	0.	0.
10000	67.	68.	63.	0.	0.
12500	60.	64.	59.	0.	0.
16000	55.	60.	57.	0.	0.
20000	51.	53.	53.	0.	0.
OCTAVE FREQ					
63	74.	72.	73.	0.	0.
125	76.	75.	76.	0.	0.
250	79.	78.	79.	0.	0.
500	83.	81.	83.	0.	0.
1000	83.	82.	81.	0.	0.
2000	84.	82.	82.	0.	0.
4000	83.	81.	80.	0.	0.
8000	76.	75.	71.	0.	0.
16000	62.	66.	62.	0.	0.

CONFIGURATION 45
FINAL MODIFIED CONVENTIONAL INITIAL DESIGN O/O OPEN DZ = 46
POWER SETTING 55
READING NO. 728

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	72.	69.	70.	0.	0.
63	79.	77.	77.	0.	0.
80	68.	66.	67.	0.	0.
100	71.	69.	70.	0.	0.
125	76.	72.	72.	0.	0.
160	73.	72.	73.	0.	0.
200	75.	73.	74.	0.	0.
250	77.	76.	76.	0.	0.
315	79.	77.	79.	0.	0.
400	78.	76.	77.	0.	0.
500	78.	78.	78.	0.	0.
630	79.	80.	79.	0.	0.
800	79.	79.	79.	0.	0.
1000	80.	80.	78.	0.	0.
1250	94.	77.	77.	0.	0.
1600	83.	78.	79.	0.	0.
2000	80.	79.	79.	0.	0.
2500	84.	79.	82.	0.	0.
3150	80.	79.	78.	0.	0.
4000	80.	79.	77.	0.	0.
5000	78.	76.	73.	0.	0.
6300	76.	73.	70.	0.	0.
8000	74.	73.	68.	0.	0.
10000	69.	70.	64.	0.	0.
12500	64.	66.	61.	0.	0.
16000	58.	60.	58.	0.	0.
20000	53.	54.	54.	0.	0.
OCTAVE FREQ					
63	80.	78.	78.	0.	0.
125	79.	76.	77.	0.	0.
250	82.	80.	82.	0.	0.
500	83.	83.	83.	0.	0.
1000	94.	84.	83.	0.	0.
2000	87.	83.	85.	0.	0.
4000	84.	83.	81.	0.	0.
8000	79.	77.	73.	0.	0.
16000	65.	67.	63.	0.	0.

CONFIGURATION 45
FINAL MODIFIED CONVENTIONAL INITIAL DESIGN 0/0 OPEN DZ = 46
POWER SETTING 75
READING NO. 732

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	71.	69.	70.	0.	0.
63	79.	77.	78.	0.	0.
80	69.	67.	69.	0.	0.
100	73.	71.	72.	0.	0.
125	78.	73.	74.	0.	0.
160	75.	73.	74.	0.	0.
200	76.	74.	75.	0.	0.
250	78.	76.	77.	0.	0.
315	79.	77.	79.	0.	0.
400	79.	76.	77.	0.	0.
500	79.	78.	79.	0.	0.
630	79.	79.	78.	0.	0.
800	80.	79.	80.	0.	0.
1000	81.	79.	79.	0.	0.
1250	79.	78.	77.	0.	0.
1600	81.	80.	80.	0.	0.
2000	81.	80.	80.	0.	0.
2500	81.	80.	78.	0.	0.
3150	81.	79.	79.	0.	0.
4000	80.	79.	77.	0.	0.
5000	78.	76.	74.	0.	0.
6300	75.	75.	72.	0.	0.
8000	76.	74.	72.	0.	0.
10000	71.	72.	68.	0.	0.
12500	64.	67.	63.	0.	0.
16000	60.	63.	59.	0.	0.
20000	56.	57.	55.	0.	0.
OCTAVE FREQ					
63	80.	78.	79.	0.	0.
125	81.	77.	78.	0.	0.
250	83.	81.	82.	0.	0.
500	84.	83.	83.	0.	0.
1000	85.	83.	84.	0.	0.
2000	86.	85.	84.	0.	0.
4000	85.	83.	82.	0.	0.
8000	79.	79.	76.	0.	0.
16000	66.	69.	65.	0.	0.

CONFIGURATION 45
FINAL MODIFIED CONVENTIONAL INITIAL DESIGN O/O OPEN DZ = 46
POWER SETTING 100
READING NO. 733

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.	68.	69.	0.	0.
63	79.	77.	78.	0.	0.
80	69.	67.	68.	0.	0.
100	72.	70.	71.	0.	0.
125	77.	72.	73.	0.	0.
160	74.	72.	74.	0.	0.
200	75.	74.	75.	0.	0.
250	77.	75.	76.	0.	0.
315	79.	77.	79.	0.	0.
400	79.	76.	77.	0.	0.
500	79.	78.	79.	0.	0.
630	80.	79.	79.	0.	0.
800	81.	79.	79.	0.	0.
1000	81.	79.	79.	0.	0.
1250	79.	77.	78.	0.	0.
1600	80.	79.	80.	0.	0.
2000	81.	79.	80.	0.	0.
2500	82.	78.	80.	0.	0.
3150	81.	79.	78.	0.	0.
4000	80.	78.	77.	0.	0.
5000	78.	76.	75.	0.	0.
6300	76.	75.	72.	0.	0.
8000	76.	75.	72.	0.	0.
10000	72.	73.	70.	0.	0.
12500	67.	70.	64.	0.	0.
16000	61.	64.	61.	0.	0.
20000	57.	58.	56.	0.	0.
OCTAVE FREQ					
63	80.	78.	79.	0.	0.
125	80.	76.	78.	0.	0.
250	82.	80.	82.	0.	0.
500	84.	83.	83.	0.	0.
1000	85.	83.	83.	0.	0.
2000	86.	83.	85.	0.	0.
4000	85.	83.	82.	0.	0.
8000	80.	79.	76.	0.	0.
16000	68.	71.	66.	0.	0.

CONFIGURATION 46
FINAL MODIFIED CONVENTIONAL INITIAL DESIGN 0/0 OPEN DZ = 100
POWER SETTING 10
READING NO. 722

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	63.	64.	0.	0.
63	69.	69.	66.	0.	0.
80	66.	63.	65.	0.	0.
100	68.	65.	66.	0.	0.
125	68.	66.	67.	0.	0.
160	70.	69.	70.	0.	0.
200	69.	67.	67.	0.	0.
250	71.	70.	70.	0.	0.
315	72.	71.	74.	0.	0.
400	73.	71.	72.	0.	0.
500	76.	75.	76.	0.	0.
630	76.	75.	75.	0.	0.
800	75.	75.	74.	0.	0.
1000	74.	73.	74.	0.	0.
1250	73.	72.	72.	0.	0.
1600	75.	73.	74.	0.	0.
2000	73.	73.	73.	0.	0.
2500	74.	73.	73.	0.	0.
3150	75.	74.	73.	0.	0.
4000	75.	75.	73.	0.	0.
5000	72.	71.	69.	0.	0.
6300	70.	69.	67.	0.	0.
8000	68.	68.	64.	0.	0.
10000	67.	67.	63.	0.	0.
12500	62.	63.	58.	0.	0.
16000	58.	60.	56.	0.	0.
20000	52.	52.	51.	0.	0.
OCTAVE FREQ					
63	73.	71.	70.	0.	0.
125	74.	72.	73.	0.	0.
250	76.	74.	76.	0.	0.
500	80.	79.	79.	0.	0.
1000	79.	78.	78.	0.	0.
2000	79.	78.	78.	0.	0.
4000	79.	78.	77.	0.	0.
8000	73.	73.	70.	0.	0.
16000	64.	65.	61.	0.	0.

CONFIGURATION 46
FINAL MODIFIED CONVENTIONAL INITIAL DESIGN O/O OPEN DZ = 100
POWER SETTING 25
READING NO. 725

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	66.	66.	69.	0.	0.
63	68.	67.	68.	0.	0.
80	64.	63.	66.	0.	0.
100	67.	66.	67.	0.	0.
125	70.	67.	69.	0.	0.
160	70.	68.	69.	0.	0.
200	70.	68.	69.	0.	0.
250	72.	70.	71.	0.	0.
315	74.	72.	74.	0.	0.
400	75.	72.	73.	0.	0.
500	77.	75.	77.	0.	0.
630	76.	76.	75.	0.	0.
800	77.	75.	75.	0.	0.
1000	76.	75.	74.	0.	0.
1250	75.	73.	74.	0.	0.
1600	77.	75.	76.	0.	0.
2000	77.	75.	75.	0.	0.
2500	76.	76.	75.	0.	0.
3150	78.	76.	76.	0.	0.
4000	78.	75.	75.	0.	0.
5000	76.	73.	71.	0.	0.
6300	73.	71.	68.	0.	0.
8000	71.	70.	66.	0.	0.
10000	68.	69.	64.	0.	0.
12500	63.	66.	60.	0.	0.
16000	57.	61.	57.	0.	0.
20000	52.	54.	53.	0.	0.
OCTAVE FREQ					
63	71.	70.	73.	0.	0.
125	74.	72.	73.	0.	0.
250	77.	75.	77.	0.	0.
500	81.	79.	80.	0.	0.
1000	81.	79.	79.	0.	0.
2000	81.	80.	80.	0.	0.
4000	82.	80.	79.	0.	0.
8000	76.	75.	71.	0.	0.
16000	64.	67.	62.	0.	0.

CONFIGURATION 46
FINAL MODIFIED CONVENTIONAL INITIAL DESIGN O/O OPEN OZ = 100
POWER SETTING 40
READING NO. 726

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	69.	71.	0.	0.
63	59.	67.	69.	0.	0.
80	66.	65.	67.	0.	0.
100	69.	67.	69.	0.	0.
125	70.	68.	70.	0.	0.
160	71.	69.	72.	0.	0.
200	71.	69.	70.	0.	0.
250	73.	70.	72.	0.	0.
315	74.	72.	75.	0.	0.
400	74.	71.	72.	0.	0.
500	77.	75.	76.	0.	0.
630	76.	76.	75.	0.	0.
800	77.	74.	75.	0.	0.
1000	77.	75.	75.	0.	0.
1250	76.	74.	74.	0.	0.
1600	78.	76.	78.	0.	0.
2000	79.	77.	77.	0.	0.
2500	77.	76.	75.	0.	0.
3150	78.	77.	76.	0.	0.
4000	78.	76.	75.	0.	0.
5000	76.	73.	72.	0.	0.
6300	74.	72.	70.	0.	0.
8000	73.	72.	69.	0.	0.
10000	68.	69.	65.	0.	0.
12500	65.	66.	62.	0.	0.
16000	59.	62.	59.	0.	0.
20000	55.	56.	56.	0.	0.

OCTAVE FREQ	1	2	3	4	5
63	73.	72.	74.	0.	0.
125	75.	73.	75.	0.	0.
250	78.	75.	78.	0.	0.
500	81.	79.	79.	0.	0.
1000	81.	79.	79.	0.	0.
2000	83.	81.	82.	0.	0.
4000	82.	80.	79.	0.	0.
8000	77.	76.	73.	0.	0.
16000	66.	68.	64.	0.	0.

CONFIGURATION 46
FINAL MODIFIED CONVENTIONAL INITIAL DESIGN O/O OPEN DZ = 100
POWER SETTING 55
READING NO. 731

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	71.	75.	69.	0.	0.
63	79.	77.	77.	0.	0.
80	68.	69.	68.	0.	0.
100	71.	70.	70.	0.	0.
125	76.	73.	73.	0.	0.
160	74.	71.	74.	0.	0.
200	74.	72.	74.	0.	0.
250	76.	76.	76.	0.	0.
315	79.	76.	80.	0.	0.
400	79.	74.	76.	0.	0.
500	79.	77.	79.	0.	0.
630	79.	78.	78.	0.	0.
800	79.	77.	77.	0.	0.
1000	80.	78.	79.	0.	0.
1250	89.	91.	96.	0.	0.
1600	82.	82.	86.	0.	0.
2000	80.	78.	79.	0.	0.
2500	83.	81.	84.	0.	0.
3150	80.	78.	78.	0.	0.
4000	82.	82.	82.	0.	0.
5000	80.	77.	76.	0.	0.
6300	77.	76.	75.	0.	0.
8000	76.	75.	75.	0.	0.
10000	71.	72.	70.	0.	0.
12500	66.	69.	65.	0.	0.
16000	60.	64.	60.	0.	0.
20000	55.	56.	54.	0.	0.
OCTAVE FREQ					
63	80.	80.	78.	0.	0.
125	79.	76.	77.	0.	0.
250	82.	80.	82.	0.	0.
500	84.	81.	83.	0.	0.
1000	90.	91.	96.	0.	0.
2000	87.	85.	89.	0.	0.
4000	86.	84.	84.	0.	0.
8000	80.	79.	79.	0.	0.
16000	67.	70.	66.	0.	0.

CONFIGURATION 47
FINAL PRECHAMBER WALL FUEL FILM MOD A
POWER SETTING 10
READING NO. 794

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	66.	63.	65.	131.	140.
63	70.	70.	70.	130.	136.
80	66.	63.	65.	129.	136.
100	67.	64.	65.	131.	141.
125	70.	69.	71.	133.	142.
160	71.	69.	71.	138.	148.
200	71.	70.	71.	128.	140.
250	74.	72.	73.	125.	137.
315	74.	73.	76.	128.	135.
400	74.	72.	74.	132.	136.
500	76.	75.	78.	125.	137.
630	76.	76.	76.	124.	136.
800	78.	76.	77.	125.	135.
1000	77.	77.	76.	121.	137.
1250	76.	75.	74.	121.	136.
1600	78.	76.	75.	124.	136.
2000	76.	74.	74.	121.	135.
2500	76.	75.	74.	119.	132.
3150	77.	75.	74.	125.	130.
4000	76.	74.	73.	117.	134.
5000	78.	75.	73.	122.	131.
6300	72.	70.	68.	120.	133.
8000	71.	70.	68.	124.	127.
10000	67.	67.	65.	106.	123.
12500	62.	65.	61.	100.	117.
16000	57.	61.	59.	99.	112.
20000	53.	55.	54.	98.	110.
OCTAVE FREQ					
63	73.	71.	72.	135.	143.
125	74.	73.	75.	140.	150.
250	78.	77.	79.	132.	143.
500	80.	79.	81.	133.	141.
1000	82.	81.	81.	128.	141.
2000	82.	80.	79.	127.	139.
4000	82.	79.	78.	127.	137.
8000	75.	74.	72.	126.	134.
16000	64.	67.	64.	104.	119.

CONFIGURATION 47
FINAL PRECHAMBER WALL FUEL FILM MOD A
POWER SETTING 25
READING NO. 795

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	66.	68.	131.	145.
63	72.	70.	71.	131.	139.
80	65.	63.	65.	132.	138.
100	68.	65.	66.	132.	144.
125	70.	68.	71.	135.	141.
160	72.	68.	70.	138.	147.
200	73.	69.	71.	131.	142.
250	75.	73.	75.	126.	140.
315	75.	74.	7[illegible].	129.	137.
400	74.	73.	74.	135.	138.
500	76.	76.	78.	128.	139.
630	77.	76.	77.	125.	138.
800	78.	76.	77.	126.	137.
1000	79.	77.	77.	123.	137.
1250	78.	76.	75.	123.	137.
1600	80.	77.	77.	125.	137.
2000	78.	77.	77.	123.	136.
2500	77.	75.	76.	120.	134.
3150	79.	77.	77.	126.	133.
4000	77.	75.	75.	119.	136.
5000	78.	73.	73.	121.	132.
6300	73.	71.	69.	122.	136.
8000	70.	69.	67.	116.	130.
10000	69.	69.	66.	107.	127.
12500	64.	67.	63.	100.	121.
16000	60.	64.	61.	99.	114.
20000	54.	57.	56.	98.	111.
OCTAVE FREQ					
63	75.	72.	73.	136.	147.
125	75.	72.	74.	140.	149.
250	79.	77.	79.	134.	145.
500	81.	80.	81.	136.	143.
1000	83.	81.	81.	129.	142.
2000	83.	81.	81.	128.	141.
4000	83.	80.	80.	128.	139.
8000	76.	75.	72.	123.	137.
16000	66.	69.	66.	104.	122.

CONFIGURATION 47
FINAL PRECHAMBER WALL FUEL FILM MOD A
POWER SETTING 40
READING NO. 756

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	74.	73.	71.	133.	146.
63	72.	71.	70.	134.	142.
80	66.	67.	66.	135.	141.
100	68.	68.	66.	133.	144.
125	70.	69.	69.	136.	142.
160	72.	71.	71.	141.	148.
200	73.	72.	72.	135.	144.
250	75.	75.	75.	128.	141.
315	75.	76.	75.	129.	139.
400	75.	74.	74.	136.	138.
500	77.	78.	79.	132.	140.
630	78.	78.	77.	127.	140.
800	79.	78.	78.	128.	139.
1000	79.	80.	78.	125.	139.
1250	79.	79.	77.	124.	140.
1600	82.	81.	79.	127.	140.
2000	80.	80.	79.	125.	138.
2500	79.	79.	77.	123.	137.
3150	80.	80.	78.	127.	134.
4000	79.	79.	76.	121.	137.
5000	79.	77.	74.	122.	136.
6300	74.	74.	71.	124.	141.
8000	71.	72.	68.	119.	133.
10000	69.	69.	66.	110.	130.
12500	64.	65.	62.	109.	124.
16000	59.	61.	60.	108.	115.
20000	54.	55.	56.	108.	111.
OCTAVE FREQ					
63	77.	76.	74.	139.	148.
125	75.	74.	74.	143.	150.
250	79.	79.	79.	137.	147.
500	82.	82.	82.	138.	144.
1000	84.	84.	82.	131.	144.
2000	85.	85.	83.	130.	143.
4000	84.	84.	81.	129.	141.
8000	77.	77.	74.	125.	142.
16000	66.	67.	65.	113.	125.

CONFIGURATION 47
FINAL PRECHAMBER WALL FUEL FILM MOD A
POWER SETTING 55
READING NO. 797

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	74.	73.	76.	137.	146.
63	81.	82.	84.	135.	144.
80	69.	68.	69.	137.	143.
100	72.	69.	70.	134.	145.
125	77.	74.	73.	136.	144.
160	74.	72.	75.	140.	148.
200	75.	73.	78.	137.	145.
250	77.	77.	78.	129.	142.
315	79.	78.	80.	130.	141.
400	78.	76.	78.	138.	140.
500	79.	79.	82.	135.	142.
630	80.	79.	82.	127.	141.
800	80.	79.	81.	128.	140.
1000	81.	81.	82.	125.	139.
1250	99.	92.	95.	125.	140.
1600	91.	86.	91.	128.	140.
2000	82.	81.	81.	126.	138.
2500	86.	88.	89.	122.	138.
3150	82.	83.	85.	127.	134.
4000	80.	80.	81.	122.	136.
5000	80.	78.	81.	122.	135.
6300	77.	78.	80.	124.	138.
8000	75.	76.	77.	118.	133.
10000	72.	72.	73.	111.	129.
12500	68.	70.	70.	109.	123.
16000	65.	67.	69.	107.	114.
20000	61.	61.	63.	107.	111.
OCTAVE FREQ					
63	82.	83.	85.	141.	149.
125	80.	77.	78.	142.	151.
250	82.	81.	84.	138.	148.
500	84.	83.	86.	140.	146.
1000	99.	93.	95.	131.	144.
2000	93.	91.	93.	131.	144.
4000	86.	86.	88.	129.	140.
8000	80.	81.	82.	125.	140.
16000	70.	72.	73.	113.	124.

CONFIGURATION 47
FINAL PRECHAMBER WALL FUEL FILM MOD A
POWER SETTING 75
READING NO. 798

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	73.	74.	72.	138.	147.
63	81.	81.	81.	136.	144.
80	68.	69.	68.	137.	143.
100	72.	71.	71.	136.	147.
125	76.	72.	73.	137.	145.
160	74.	73.	74.	141.	148.
200	75.	73.	74.	140.	145.
250	78.	76.	77.	131.	144.
315	79.	78.	79.	131.	142.
400	78.	76.	76.	141.	144.
500	79.	77.	79.	140.	143.
630	80.	78.	79.	128.	143.
800	81.	78.	80.	129.	141.
1000	81.	81.	80.	126.	140.
1250	93.	84.	91.	125.	142.
1600	92.	86.	93.	128.	140.
2000	82.	81.	81.	127.	139.
2500	84.	82.	83.	124.	139.
3150	83.	82.	82.	126.	135.
4000	82.	79.	80.	122.	136.
5000	81.	79.	78.	123.	136.
6300	80.	80.	78.	125.	139.
8000	77.	77.	76.	117.	134.
10000	73.	74.	72.	113.	129.
12500	69.	71.	66.	108.	124.
16000	65.	67.	64.	108.	116.
20000	62.	61.	57.	107.	111.
OCTAVE FREQ					
63	82.	82.	82.	142.	150.
125	79.	77.	78.	143.	152.
250	82.	81.	82.	141.	149.
500	84.	82.	83.	144.	148.
1000	94.	86.	92.	132.	146.
2000	93.	88.	94.	131.	144.
4000	87.	85.	85.	129.	140.
8000	82.	82.	81.	126.	141.
16000	71.	73.	68.	112.	125.

CONFIGURATION 48
FINAL PRECHAMBER PRESSURE ATOMIZER MCC A
POWER SETTING 10
READING NO. 799

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	64.	63.	66.	130.	140.
63	70.	69.	71.	129.	136.
80	66.	66.	69.	129.	136.
100	67.	67.	71.	128.	139.
125	68.	68.	70.	131.	136.
160	72.	68.	71.	136.	143.
200	71.	69.	72.	132.	143.
250	74.	72.	75.	125.	139.
315	74.	73.	75.	126.	136.
400	74.	73.	74.	135.	136.
500	76.	75.	77.	126.	138.
630	76.	75.	75.	124.	136.
800	77.	75.	78.	124.	135.
1000	77.	76.	76.	121.	136.
1250	76.	74.	73.	122.	135.
1600	78.	76.	75.	123.	135.
2000	77.	74.	74.	121.	134.
2500	76.	74.	74.	119.	132.
3150	78.	75.	74.	126.	130.
4000	76.	74.	74.	117.	133.
5000	80.	75.	73.	121.	131.
6300	71.	70.	67.	120.	131.
8000	70.	70.	66.	121.	128.
10000	66.	66.	62.	105.	123.
12500	61.	62.	58.	99.	116.
16000	56.	59.	56.	98.	112.
20000	52.	53.	52.	97.	110.
OCTAVE FREQ					
63	72.	71.	74.	134.	143.
125	74.	72.	75.	138.	145.
250	78.	76.	79.	134.	145.
500	80.	79.	80.	136.	142.
1000	81.	80.	81.	127.	140.
2000	82.	80.	79.	126.	139.
4000	83.	79.	78.	128.	136.
8000	74.	74.	70.	124.	133.
16000	63.	64.	61.	103.	118.

CONFIGURATION 48
FINAL PRECHAMBER PRESSURE ATOMIZER MOD A
POWER SETTING 25
READING NO. 800

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	72.	69.	71.	134.	144.
63	71.	69.	70.	131.	139.
80	68.	66.	67.	131.	138.
100	69.	66.	69.	130.	140.
125	69.	68.	69.	132.	137.
160	71.	69.	70.	138.	144.
200	71.	69.	70.	136.	146.
250	73.	73.	73.	127.	141.
315	74.	73.	74.	128.	139.
400	73.	72.	74.	135.	138.
500	77.	76.	77.	132.	143.
630	77.	76.	77.	126.	138.
800	77.	76.	78.	126.	137.
1000	77.	76.	77.	123.	138.
1250	77.	75.	74.	123.	138.
1600	79.	77.	77.	125.	138.
2000	78.	76.	77.	123.	136.
2500	77.	76.	76.	120.	135.
3150	79.	78.	76.	126.	131.
4000	77.	76.	76.	120.	136.
5000	78.	74.	73.	121.	134.
6300	72.	71.	69.	121.	134.
8000	69.	70.	67.	117.	130.
10000	67.	68.	65.	107.	126.
12500	63.	66.	62.	101.	121.
16000	59.	64.	60.	100.	114.
20000	54.	57.	56.	98.	111.

OCTAVE FREQ	1	2	3	4	5
63	75.	73.	74.	137.	146.
125	75.	73.	74.	139.	146.
250	78.	77.	77.	137.	148.
500	81.	80.	81.	137.	145.
1000	82.	80.	81.	129.	142.
2000	83.	81.	81.	128.	141.
4000	83.	81.	80.	128.	139.
8000	75.	75.	72.	123.	136.
16000	65.	68.	65.	105.	122.

CONFIGURATION 48
FINAL PRECHAMBER PRESSURE ATOMIZER MOD A
POWER SETTING 40
READING NO. 601

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	70.	71.	142.	155.
63	71.	69.	71.	141.	153.
80	67.	65.	67.	142.	152.
100	69.	67.	69.	141.	154.
125	70.	68.	69.	141.	150.
160	70.	70.	70.	145.	155.
200	73.	71.	73.	149.	162.
250	74.	72.	74.	138.	154.
315	75.	73.	75.	136.	150.
400	74.	73.	75.	140.	147.
500	78.	77.	80.	142.	154.
630	78.	77.	78.	133.	149.
800	79.	77.	78.	135.	149.
1000	79.	78.	77.	131.	149.
1250	78.	76.	75.	130.	149.
1600	81.	79.	78.	133.	149.
2000	80.	78.	79.	131.	148.
2500	78.	77.	76.	128.	146.
3150	80.	79.	78.	133.	143.
4000	79.	78.	76.	127.	146.
5000	77.	75.	74.	128.	145.
6300	74.	73.	71.	129.	145.
8000	71.	71.	68.	124.	140.
10000	69.	69.	66.	115.	136.
12500	64.	66.	63.	110.	132.
16000	61.	63.	61.	109.	124.
20000	55.	57.	56.	108.	121.
OCTAVE FREQ					
63	74.	73.	75.	146.	158.
125	74.	73.	74.	148.	158.
250	79.	77.	79.	150.	163.
500	82.	81.	83.	144.	156.
1000	83.	82.	82.	137.	154.
2000	85.	83.	83.	136.	153.
4000	84.	82.	81.	135.	150.
8000	77.	76.	74.	130.	147.
16000	66.	68.	66.	114.	133.

CONFIGURATION 48
FINAL PRECHAMBER PRESSURE ATOMIZER MOD A
POWER SETTING 55
READING NO. 602

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	71.	71.	137.	153.
63	75.	80.	81.	137.	150.
80	62.	66.	67.	139.	153.
100	67.	68.	70.	136.	153.
125	72.	69.	72.	136.	150.
160	69.	71.	73.	142.	157.
200	72.	73.	76.	144.	162.
250	72.	76.	76.	134.	152.
315	74.	77.	77.	131.	148.
400	74.	76.	77.	134.	148.
500	76.	78.	79.	137.	150.
630	76.	79.	79.	127.	149.
800	77.	78.	80.	129.	146.
1000	77.	80.	90.	125.	146.
1250	76.	89.	78.	125.	146.
1600	77.	81.	80.	128.	145.
2000	77.	79.	80.	126.	144.
2500	78.	83.	82.	123.	144.
3150	78.	80.	79.	127.	140.
4000	76.	80.	78.	122.	141.
5000	75.	77.	75.	122.	141.
6300	72.	76.	73.	125.	143.
8000	69.	72.	69.	119.	139.
10000	66.	71.	67.	111.	134.
12500	63.	68.	66.	108.	131.
16000	59.	66.	64.	107.	123.
20000	54.	59.	59.	107.	121.
OCTAVE FREQ					
63	76.	81.	82.	143.	157.
125	75.	74.	77.	144.	159.
250	78.	80.	81.	145.	163.
500	80.	83.	83.	139.	154.
1000	81.	90.	84.	132.	151.
2000	82.	86.	86.	131.	149.
4000	81.	84.	82.	129.	145.
8000	74.	78.	75.	126.	145.
16000	65.	70.	69.	112.	132.

CONFIGURATION 48
FINAL PRECHAMBER PRESSURE ATOMIZER MOD A
POWER SETTING 75
READING NO. 803

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	72.	69.	70.	138.	149.
63	80.	79.	79.	139.	147.
80	67.	66.	67.	141.	149.
100	70.	70.	71.	139.	150.
125	75.	71.	73.	138.	147.
160	74.	72.	74.	147.	156.
200	5.	75.	77.	148.	155.
250	78.	77.	76.	137.	148.
315	79.	78.	79.	133.	146.
400	78.	76.	78.	138.	143.
500	80.	77.	81.	141.	146.
630	80.	79.	79.	128.	144.
800	82.	80.	80.	130.	141.
1000	81.	80.	80.	126.	140.
1250	80.	78.	78.	125.	142.
1600	82.	80.	80.	128.	140.
2000	82.	80.	81.	128.	139.
2500	82.	79.	83.	123.	139.
3150	82.	81.	80.	126.	136.
4000	81.	79.	78.	122.	137.
5000	80.	77.	76.	123.	136.
6300	77.	76.	74.	126.	137.
8000	74.	73.	70.	117.	135.
10000	70.	71.	68.	112.	131.
12500	67.	69.	65.	109.	129.
16000	63.	66.	63.	108.	122.
20000	57.	59.	59.	107.	120.
OCTAVE FREQ					
63	81.	80.	80.	144.	153.
125	78.	76.	78.	148.	157.
250	82.	82.	82.	148.	156.
500	84.	82.	84.	143.	149.
1000	86.	84.	84.	132.	146.
2000	87.	84.	86.	132.	144.
4000	86.	84.	83.	129.	141.
8000	79.	79.	76.	127.	140.
16000	69.	71.	68.	113.	130.

CONFIGURATION 48
FINAL PRECHAMBER PRESSURE ATOMIZER MOD A
POWER SETTING 100
READING NO. 804

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	72.	69.	71.	138.	155.
63	81.	79.	80.	136.	154.
80	68.	66.	67.	140.	153.
100	73.	72.	72.	139.	156.
125	76.	72.	74.	137.	155.
160	76.	73.	75.	151.	171.
200	76.	75.	77.	151.	166.
250	79.	77.	77.	136.	156.
315	79.	79.	80.	143.	157.
400	78.	77.	78.	142.	157.
500	82.	80.	82.	147.	158.
630	82.	80.	81.	131.	156.
800	82.	80.	81.	131.	153.
1000	83.	81.	81.	128.	152.
1250	82.	80.	80.	126.	152.
1600	83.	81.	81.	128.	151.
2000	82.	80.	81.	129.	150.
2500	83.	79.	82.	125.	151.
3150	83.	82.	81.	126.	147.
4000	82.	80.	80.	123.	149.
5000	80.	78.	78.	123.	148.
6300	79.	77.	76.	127.	149.
8000	75.	74.	72.	119.	147.
10000	72.	72.	68.	115.	143.
12500	68.	69.	66.	109.	140.
16000	63.	65.	63.	108.	130.
20000	58.	59.	58.	107.	124.
OCTAVE FREQ					
63	82.	80.	81.	143.	159.
125	80.	77.	79.	151.	171.
250	83.	82.	83.	152.	167.
500	86.	84.	85.	148.	162.
1000	87.	85.	85.	134.	157.
2000	87.	85.	86.	132.	155.
4000	87.	85.	85.	129.	153.
8000	81.	80.	78.	128.	152.
16000	70.	71.	68.	113.	141.

CONFIGURATION 49
FINAL MODIFIED CONVENTIONAL MOD A VAR GEOM 0/0 OPEN DZ = 30
POWER SETTING 55
READING NO. 824

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	67.	70.	136.	144.
63	76.	76.	78.	135.	146.
80	66.	66.	67.	135.	147.
100	69.	68.	68.	136.	153.
125	73.	72.	75.	134.	150.
160	73.	71.	73.	134.	150.
200	74.	72.	75.	134.	150.
250	76.	74.	75.	134.	149.
315	79.	75.	78.	134.	145.
400	77.	75.	77.	133.	143.
500	77.	77.	78.	133.	143.
630	78.	78.	78.	134.	142.
800	79.	78.	79.	133.	141.
1000	80.	78.	79.	132.	140.
1250	96.	92.	91.	131.	141.
1600	64.	81.	81.	129.	140.
2000	79.	78.	79.	128.	139.
2500	86.	87.	87.	127.	138.
3150	80.	79.	79.	125.	136.
4000	81.	78.	79.	124.	137.
5000	79.	77.	77.	121.	137.
6300	76.	76.	74.	121.	136.
8000	76.	75.	74.	119.	139.
10000	74.	75.	73.	117.	127.
12500	68.	69.	66.	111.	123.
16000	63.	66.	64.	106.	121.
20000	60.	60.	61.	100.	121.
OCTAVE FREQ					
63	77.	77.	79.	140.	151.
125	77.	75.	78.	140.	156.
250	82.	79.	81.	139.	153.
500	82.	82.	82.	138.	147.
1000	96.	92.	92.	137.	145.
2000	89.	88.	88.	133.	144.
4000	85.	83.	83.	128.	141.
8000	80.	80.	78.	124.	141.
16000	70.	71.	69.	112.	127.

CONFIGURATION 50
FINAL MODIFIEC CONVENTIONAL MOD A VAR GECM O/O CPEN DZ = 50
POWER SETTING 10
READING NO. 617

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	74.	73.	0.	123.	142.
63	77.	73.	0.	126.	141.
80	75.	73.	0.	127.	143.
100	76.	74.	0.	134.	149.
125	78.	73.	0.	129.	144.
160	79.	73.	0.	129.	144.
200	79.	72.	0.	128.	143.
250	82.	74.	0.	126.	141.
315	84.	75.	0.	126.	139.
400	84.	72.	0.	124.	137.
500	87.	74.	0.	125.	139.
630	86.	74.	0.	124.	137.
800	85.	72.	0.	124.	137.
1000	84.	72.	0.	123.	137.
1250	84.	71.	0.	123.	136.
1600	85.	72.	0.	122.	137.
2000	84.	71.	0.	121.	135.
2500	84.	71.	0.	119.	133.
3150	84.	71.	0.	118.	132.
4000	85.	73.	0.	122.	135.
5000	81.	69.	0.	117.	131.
6300	80.	68.	0.	120.	134.
8000	79.	67.	0.	113.	133.
10000	78.	65.	0.	109.	129.
12500	76.	64.	0.	104.	125.
16000	76.	64.	0.	98.	122.
20000	66.	55.	0.	92.	116.
OCTAVE FREQ					
63	80.	78.	0.	130.	147.
125	83.	78.	0.	136.	151.
250	87.	79.	0.	132.	146.
500	91.	78.	0.	129.	143.
1000	89.	76.	0.	128.	141.
2000	89.	76.	0.	126.	140.
4000	88.	76.	0.	124.	138.
8000	84.	72.	0.	121.	137.
16000	79.	67.	0.	105.	127.

CONFIGURATION 50
FINAL MODIFIED CONVENTIONAL MOD A VAR GEOM O/O OPEN DZ = 50
POWER SETTING 55
READING NO. 823

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	77.	70.	136.	145.
63	77.	78.	78.	136.	146.
80	67.	74.	67.	138.	148.
100	69.	74.	69.	142.	155.
125	72.	74.	73.	138.	150.
160	73.	73.	73.	139.	151.
200	75.	73.	74.	139.	151.
250	76.	75.	75.	136.	148.
315	77.	75.	77.	135.	144.
400	76.	75.	76.	133.	14[illegible].
500	78.	76.	77.	133.	14[illegible].
630	78.	77.	78.	133.	141.
800	79.	73.	78.	132.	1[illegible]0.
1000	81.	79.	80.	131.	139.
1250	98.	97.	94.	131.	140.
1600	86.	85.	84.	130.	140.
2000	79.	78.	79.	130.	139.
2500	85.	84.	88.	129.	138.
3150	80.	78.	79.	127.	135.
4000	80.	78.	79.	127.	137.
5000	78.	77.	77.	126.	137.
6300	76.	76.	74.	126.	135.
8000	76.	76.	74.	125.	136.
10000	75.	74.	73.	117.	126.
12500	69.	69.	66.	112.	123.
16000	64.	66.	64.	106.	120.
20000	60.	60.	61.	100.	120.
OCTAVE FREQ					
63	78.	81.	79.	142.	151.
125	76.	78.	77.	145.	157.
250	81.	79.	80.	142.	153.
500	82.	81.	82.	138.	146.
1000	98.	97.	94.	136.	144.
2000	89.	88.	90.	134.	144.
4000	84.	82.	83.	131.	141.
8000	80.	80.	78.	129.	139.
16000	71.	71.	69.	113.	126.

CONFIGURATION 50
FINAL MODIFIED CONVENTIONAL MOD A VAR GEOM C/O OPEN DZ = 50
POWER SETTING 75
READING NO. 825

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	75.	69.	140.	146.
63	77.	77.	77.	138.	146.
80	69.	73.	67.	139.	149.
100	72.	74.	70.	140.	156.
125	74.	74.	74.	139.	151.
160	74.	73.	74.	138.	154.
200	75.	74.	77.	138.	155.
250	76.	75.	77.	138.	151.
315	78.	76.	77.	139.	147.
400	77.	75.	77.	138.	144.
500	78.	76.	79.	137.	143.
630	78.	78.	78.	136.	144.
800	79.	78.	80.	136.	142.
1000	80.	79.	79.	137.	141.
1250	78.	77.	78.	134.	142.
1600	80.	78.	79.	134.	140.
2000	80.	79.	79.	132.	140.
2500	84.	78.	79.	129.	140.
3150	80.	78.	79.	131.	136.
4000	80.	78.	78.	128.	137.
5000	78.	77.	76.	125.	138.
6300	77.	77.	75.	121.	136.
8000	79.	77.	76.	119.	138.
10000	76.	76.	75.	113.	129.
12500	71.	70.	68.	112.	126.
16000	66.	69.	65.	111.	121.
20000	63.	62.	62.	109.	120.
OCTAVE FREQ					
63	78.	80.	78.	144.	152.
125	78.	78.	78.	144.	159.
250	81.	80.	82.	143.	157.
500	82.	81.	83.	142.	148.
1000	84.	83.	84.	141.	146.
2000	87.	83.	84.	137.	145.
4000	84.	82.	83.	133.	142.
8000	82.	81.	80.	124.	140.
16000	73.	73.	70.	116.	128.

CONFIGURATION 50
FINAL MODIFIED CONVENTIONAL MOD A VAR GEOM O/O OPEN DZ = 50
POWER SETTING 100
READING NO. 828

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.	68.	69.	142.	146.
63	77.	76.	77.	140.	146.
80	68.	67.	67.	138.	150.
100	73.	72.	72.	140.	156.
125	75.	75.	75.	142.	152.
160	74.	72.	74.	139.	155.
200	76.	75.	78.	139.	156.
250	78.	76.	78.	138.	153.
315	78.	76.	78.	138.	148.
400	77.	75.	76.	137.	145.
500	78.	77.	79.	136.	144.
630	79.	78.	79.	138.	145.
800	81.	78.	80.	136.	143.
1000	81.	79.	80.	133.	141.
1250	79.	77.	77.	132.	142.
1600	80.	79.	79.	132.	142.
2000	80.	79.	80.	130.	140.
2500	82.	80.	80.	127.	141.
3150	82.	80.	80.	125.	138.
4000	82.	80.	79.	123.	138.
5000	81.	81.	78.	119.	139.
6300	81.	80.	76.	118.	138.
8000	83.	79.	78.	115.	142.
10000	82.	81.	78.	111.	131.
12500	76.	75.	70.	111.	126.
16000	70.	71.	67.	109.	121.
20000	67.	66.	63.	108.	120.
OCTAVE FREQ					
63	78.	77.	78.	145.	153.
125	79.	78.	79.	145.	159.
250	82.	80.	83.	143.	158.
500	83.	82.	83.	142.	149.
1000	85.	83.	84.	139.	147.
2000	86.	84.	84.	135.	146.
4000	86.	85.	84.	128.	143.
8000	87.	85.	82.	120.	144.
16000	77.	77.	72.	114.	128.

CONFIGURATION 51
FINAL MODIFIED CONVENTIONAL MOD A VAR GEOM O/O OPEN DZ = 68
POWER SETTING 10
READING NO. 616

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	67.	63.	0.	113.	141.
63	70.	68.	0.	119.	143.
80	66.	63.	0.	119.	145.
100	68.	66.	0.	126.	150.
125	70.	67.	0.	121.	143.
160	71.	68.	0.	120.	145.
200	71.	68.	0.	122.	144.
250	73.	71.	0.	119.	141.
315	74.	73.	0.	117.	138.
400	73.	74.	0.	115.	136.
500	76.	76.	0.	115.	138.
630	76.	76.	0.	116.	137.
800	76.	74.	0.	116.	137.
1000	76.	74.	0.	114.	137.
1250	75.	73.	0.	114.	137.
1600	76.	73.	0.	115.	136.
2000	74.	73.	0.	114.	135.
2500	75.	73.	0.	112.	134.
3150	76.	74.	0.	110.	131.
4000	76.	74.	0.	113.	134.
5000	73.	70.	0.	111.	131.
6300	70.	69.	0.	110.	133.
8000	70.	69.	0.	105.	128.
10000	66.	67.	0.	102.	121.
12500	62.	65.	0.	97.	116.
16000	60.	64.	0.	93.	112.
20000	55.	57.	0.	90.	111.

OCTAVE FREQ	1	2	3	4	5
63	73.	70.	0.	123.	148.
125	75.	72.	0.	128.	152.
250	78.	76.	0.	125.	146.
500	80.	80.	0.	120.	142.
1000	80.	78.	0.	120.	142.
2000	80.	78.	0.	119.	140.
4000	80.	78.	0.	116.	137.
8000	74.	73.	0.	112.	134.
16000	65.	68.	0.	99.	118.

CONFIGURATION 51
FINAL MODIFIED CONVENTIONAL MOD A VAR GECM O/O CPEN OZ = 68
PCWER SETTING 25
READING NO. 818

	MICROPHCNE POSITICN				
1/3 OCT FREQ	1	2	3	4	5
50	67.	74.	0.	117.	144.
63	70.	74.	0.	123.	146.
80	65.	72.	0.	116.	146.
100	68.	72.	0.	117.	151.
125	69.	71.	0.	118.	147.
160	71.	68.	0.	117.	150.
200	70.	70.	0.	119.	147.
250	73.	71.	0.	118.	143.
315	74.	70.	0.	117.	141.
400	74.	72.	0.	117.	139.
500	77.	73.	0.	117.	140.
630	77.	74.	0.	117.	139.
800	76.	73.	0.	117.	139.
1000	75.	71.	0.	116.	139.
1250	75.	71.	0.	115.	139.
1600	76.	72.	0.	115.	138.
2000	78.	72.	0.	114.	138.
2500	76.	71.	0.	113.	137.
3150	77.	72.	0.	111.	134.
4000	77.	72.	0.	111.	137.
5000	74.	69.	0.	108.	135.
6300	77.	73.	0.	107.	137.
8000	81.	77.	0.	104.	132.
10000	78.	72.	0.	102.	126.
12500	73.	67.	0.	100.	121.
16000	71.	66.	0.	96.	115.
20000	62.	57.	0.	91.	112.
OCTAVE FREQ					
63	73.	78.	0.	125.	150.
125	74.	75.	0.	122.	154.
250	77.	75.	0.	123.	149.
500	81.	78.	0.	122.	144.
1000	80.	77.	0.	121.	144.
2000	82.	76.	0.	119.	142.
4000	81.	76.	0.	115.	140.
8000	84.	79.	0.	110.	138.
16000	75.	70.	0.	102.	122.

CONFIGURATION 51
FINAL MODIFIED CONVENTIONAL MOD A VAR GECM O/O OPEN DZ = 68
POWER SETTING 40
READING NO. 819

MICROPHONE POSITION

1/3 OCT FREQ	1	2	3	4	5
50	71.	68.	0.	129.	148.
63	76.	74.	0.	128.	152.
80	67.	65.	0.	128.	155.
100	69.	68.	0.	129.	157.
125	71.	69.	0.	128.	152.
160	72.	71.	0.	128.	154.
200	74.	72.	0.	128.	153.
250	74.	73.	0.	128.	150.
315	74.	74.	0.	127.	147.
400	75.	73.	0.	127.	145.
500	77.	76.	0.	127.	146.
630	77.	77.	0.	127.	145.
800	77.	75.	0.	127.	144.
1000	77.	75.	0.	125.	144.
1250	76.	75.	0.	125.	144.
1600	79.	77.	0.	124.	144.
2000	79.	78.	0.	123.	144.
2500	78.	76.	0.	122.	143.
3150	79.	77.	0.	121.	139.
4000	79.	77.	0.	119.	143.
5000	77.	74.	0.	117.	142.
6300	79.	77.	0.	115.	143.
8000	84.	80.	0.	114.	140.
10000	78.	79.	0.	111.	133.
12500	72.	73.	0.	109.	128.
16000	69.	75.	0.	105.	122.
20000	66.	68.	0.	102.	120.
OCTAVE FREQ					
63	78.	75.	0.	133.	157.
125	76.	74.	0.	133.	160.
250	79.	78.	0.	132.	155.
500	81.	80.	0.	132.	150.
1000	81.	80.	0.	131.	149.
2000	83.	82.	0.	128.	148.
4000	83.	81.	0.	124.	146.
8000	86.	84.	0.	118.	145.
16000	74.	78.	0.	111.	129.

CONFIGURATION 51
FINAL MODIFIED CONVENTIONAL MOD A VAR GEOM 0/0 OPEN DZ = 68
POWER SETTING 55
READING NO. 822

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	68.	76.	135.	145.
63	77.	76.	79.	135.	147.
80	66.	65.	73.	134.	149.
100	69.	68.	74.	135.	155.
125	75.	72.	75.	134.	150.
160	74.	72.	74.	134.	151.
200	74.	73.	76.	133.	150.
250	76.	75.	76.	133.	146.
315	77.	76.	77.	133.	143.
400	76.	75.	75.	131.	141.
500	77.	76.	77.	131.	141.
630	78.	77.	77.	132.	141.
800	78.	78.	79.	132.	140.
1000	80.	79.	79.	131.	139.
1250	99.	96.	95.	130.	139.
1600	88.	85.	84.	129.	139.
2000	79.	78.	78.	128.	138.
2500	85.	86.	86.	127.	139.
3150	80.	78.	79.	126.	135.
4000	79.	78.	78.	124.	137.
5000	79.	77.	76.	122.	138.
6300	77.	76.	75.	120.	136.
8000	79.	76.	76.	117.	136.
10000	76.	76.	73.	113.	127.
12500	67.	68.	66.	110.	122.
16000	63.	67.	64.	104.	120.
20000	60.	61.	61.	99.	120.
OCTAVE FREQ					
63	78.	77.	81.	139.	152.
125	78.	76.	79.	139.	157.
250	81.	80.	81.	138.	152.
500	82.	81.	81.	136.	146.
1000	99.	96.	95.	136.	144.
2000	90.	89.	89.	133.	143.
4000	84.	82.	83.	129.	142.
8000	82.	81.	80.	122.	139.
16000	69.	71.	69.	111.	126.

CONFIGURATION 51
FINAL MODIFIED CONVENTIONAL MOD A VAR GEOM 0/0 OPEN DZ = 68
POWER SETTING 75
READING NO. 826

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	68.	69.	131.	147.
63	77.	76.	77.	129.	147.
80	68.	67.	67.	129.	149.
100	72.	70.	71.	130.	156.
125	74.	72.	76.	130.	152.
160	74.	72.	74.	127.	154.
200	75.	73.	76.	129.	153.
250	77.	75.	76.	130.	149.
315	77.	76.	77.	126.	145.
400	77.	76.	76.	126.	143.
500	78.	76.	79.	127.	142.
630	78.	78.	78.	127.	142.
800	79.	78.	78.	127.	141.
1000	80.	77.	80.	125.	140.
1250	80.	78.	78.	123.	141.
1600	79.	78.	79.	123.	140.
2000	81.	79.	80.	122.	139.
2500	83.	78.	79.	123.	140.
3150	80.	79.	79.	117.	136.
4000	80.	78.	78.	121.	137.
5000	79.	78.	76.	116.	138.
6300	77.	77.	76.	113.	137.
8000	79.	78.	77.	111.	139.
10000	78.	79.	77.	107.	129.
12500	75.	75.	70.	109.	125.
16000	70.	72.	67.	108.	122.
20000	66.	65.	64.	108.	121.
OCTAVE FREQ					
63	78.	77.	78.	135.	153.
125	78.	76.	79.	134.	159.
250	81.	80.	81.	133.	155.
500	82.	82.	83.	131.	147.
1000	84.	82.	84.	130.	145.
2000	86.	83.	84.	127.	144.
4000	94.	83.	83.	123.	142.
8000	83.	83.	81.	116.	141.
16000	77.	77.	72.	113.	128.

CONFIGURATION 51
FINAL MODIFIED CONVENTIONAL MOD A VAR GEOM O/O OPEN DZ = 68.
POWER SETTING 100
READING NO. 827

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	73.	69.	136.	142.
63	77.	77.	77.	134.	142.
80	68.	72.	67.	133.	145.
100	72.	73.	70.	135.	151.
125	74.	75.	76.	132.	147.
160	74.	73.	74.	132.	146.
200	74.	73.	75.	132.	146.
250	78.	75.	77.	133.	146.
315	78.	77.	77.	131.	145.
400	77.	75.	76.	131.	143.
500	78.	77.	79.	130.	143.
630	79.	77.	78.	129.	143.
800	80.	78.	79.	129.	142.
1000	81.	78.	79.	129.	140.
1250	79.	78.	78.	128.	141.
1600	81.	80.	80.	125.	141.
2000	81.	81.	81.	123.	140.
2500	81.	81.	82.	120.	140.
3150	83.	81.	81.	119.	137.
4000	83.	81.	80.	118.	138.
5000	81.	80.	78.	114.	139.
6300	80.	81.	78.	112.	138.
8000	82.	81.	80.	111.	139.
10000	85.	86.	86.	110.	131.
12500	82.	82.	78.	109.	126.
16000	76.	77.	73.	108.	122.
20000	72.	70.	69.	108.	121.
OCTAVE FREQ					
63	78.	79.	78.	139.	148.
125	78.	79.	.9.	138.	153.
250	82.	80.	81.	137.	150.
500	83.	81.	83.	135.	148.
1000	85.	83.	83.	133.	146.
2000	86.	85.	86.	128.	145.
4000	87.	85.	85.	122.	143.
8000	88.	88.	87.	116.	142.
16000	83.	83.	80.	113.	128.

CONFIGURATION 52
T63-A-5A BASELINE (2ND REPEAT)
POWER SETTING 10
READING NO. 855

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	65.	64.	63.	129.	139.
63	69.	67.	64.	136.	141.
80	66.	65.	66.	134.	142.
100	67.	67.	68.	138.	149.
125	69.	66.	65.	137.	144.
160	70.	68.	67.	138.	145.
200	70.	68.	68.	137.	143.
250	73.	70.	70.	132.	142.
315	75.	73.	74.	137.	141.
400	72.	72.	71.	134.	139.
500	76.	75.	74.	138.	141.
630	76.	74.	73.	139.	139.
800	76.	75.	74.	127.	138.
1000	76.	74.	74.	124.	138.
1250	76.	74.	71.	124.	137.
1600	76.	75.	73.	125.	136.
2000	75.	73.	71.	123.	135.
2500	75.	74.	72.	122.	133.
3150	77.	74.	72.	127.	134.
4000	77.	74.	72.	122.	140.
5000	74.	70.	68.	122.	133.
6300	71.	70.	66.	122.	132.
8000	68.	67.	63.	117.	128.
10000	65.	65.	60.	114.	122.
12500	60.	63.	57.	111.	117.
16000	56.	59.	55.	109.	114.
20000	52.	54.	50.	108.	111.
OCTAVE FREQ					
63	72.	70.	69.	139.	146.
125	74.	72.	72.	142.	151.
250	78.	76.	76.	141.	147.
500	80.	79.	78.	142.	145.
1000	81.	79.	78.	130.	142.
2000	80.	79.	77.	128.	140.
4000	81.	78.	76.	129.	142.
8000	73.	73.	68.	124.	134.
16000	62.	65.	60.	114.	119.

CONFIGURATION 52
T63-A-5A BASELINE (2ND REPEAT)
POWER SETTING 25
READING NO. 856

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	65.	73.	67.	131.	142.
63	68.	71.	69.	136.	143.
80	65.	67.	67.	137.	145.
100	68.	66.	69.	139.	150.
125	70.	67.	68.	139.	147.
160	69.	67.	69.	139.	148.
200	71.	69.	70.	137.	146.
250	73.	71.	72.	133.	144.
315	75.	73.	76.	137.	142.
400	73.	73.	72.	136.	140.
500	78.	76.	77.	138.	142.
630	77.	76.	76.	142.	142.
800	76.	76.	77.	128.	139.
1000	78.	75.	77.	122.	140.
1250	77.	75.	75.	122.	139.
1600	78.	76.	76.	125.	138.
2000	77.	77.	76.	121.	136.
2500	77.	75.	75.	120.	133.
3150	79.	76.	76.	127.	137.
4000	78.	75.	74.	120.	140.
5000	76.	72.	71.	122.	135.
6300	73.	72.	69.	123.	136.
8000	69.	68.	65.	114.	131.
10000	66.	67.	64.	109.	127.
12500	62.	64.	61.	108.	120.
16000	58.	62.	59.	108.	115.
20000	53.	55.	55.	107.	111.
OCTAVE FREQ					
63	71.	76.	73.	140.	148.
125	74.	71.	73.	144.	153.
250	78.	76.	78.	141.	149.
500	81.	80.	80.	144.	146.
1000	82.	80.	81.	130.	144.
2000	82.	81.	80.	127.	141.
4000	83.	79.	79.	129.	143.
8000	75.	74.	71.	124.	138.
16000	64.	66.	64.	112.	122.

CONFIGURATION 52
T63-A-5A BASELINE (2ND REPEAT)
POWER SETTING 40
READING NO. 857

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	73.	65.	132.	142.
63	70.	73.	69.	137.	144.
80	66.	66.	67.	138.	145.
100	69.	68.	69.	140.	151.
125	68.	70.	67.	140.	148.
160	70.	69.	69.	142.	150.
200	71.	70.	71.	140.	148.
250	72.	72.	73.	137.	145.
315	74.	73.	75.	137.	144.
400	72.	72.	73.	138.	141.
500	75.	76.	77.	139.	144.
630	75.	77.	76.	143.	144.
800	76.	77.	77.	131.	142.
1000	76.	77.	77.	124.	141.
1250	77.	76.	76.	123.	141.
1600	78.	78.	79.	126.	139.
2000	78.	78.	79.	123.	137.
2500	76.	77.	76.	121.	137.
3150	79.	78.	78.	128.	138.
4000	78.	77.	76.	122.	143.
5000	76.	75.	73.	124.	139.
6300	74.	74.	71.	125.	137.
8000	71.	72.	71.	116.	133.
10000	68.	71.	68.	109.	128.
12500	65.	69.	66.	108.	124.
16000	60.	65.	63.	108.	121.
20000	55.	58.	59.	107.	120.
OCTAVE FREQ					
63	73.	76.	72.	141.	149.
125	74.	74.	73.	146.	155.
250	77.	77.	78.	143.	151.
500	79.	80.	80.	145.	148.
1000	81.	81.	81.	132.	146.
2000	82.	82.	83.	129.	143.
4000	83.	82.	81.	130.	145.
8000	76.	77.	75.	126.	139.
16000	67.	71.	68.	112.	127.

CONFIGURATION 52
T63-A-5A BASELINE (2ND REPEAT)
POWER SETTING 55
READING NO. 859

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	60.	67.	68.	134.	142.
63	68.	72.	74.	138.	145.
80	57.	65.	66.	140.	148.
100	60.	68.	68.	141.	153.
125	64.	71.	74.	142.	150.
160	63.	70.	73.	141.	151.
200	64.	71.	72.	141.	148.
250	67.	74.	75.	138.	147.
315	69.	76.	78.	137.	144.
400	67.	74.	76.	139.	143.
500	69.	77.	79.	140.	145.
630	70.	78.	78.	144.	145.
800	70.	77.	79.	134.	143.
1000	70.	77.	80.	125.	142.
1250	69.	76.	78.	123.	142.
1600	70.	77.	79.	126.	140.
2000	71.	78.	79.	125.	138.
2500	74.	78.	79.	122.	138.
3150	72.	78.	79.	127.	138.
4000	71.	77.	77.	122.	142.
5000	70.	75.	74.	126.	140.
6300	68.	75.	74.	126.	138.
8000	65.	73.	73.	117.	136.
10000	61.	70.	71.	110.	130.
12500	60.	69.	70.	108.	127.
16000	55.	66.	67.	107.	121.
20000	52.	58.	62.	107.	120.
OCTAVE FREQ					
63	69.	74.	75.	143.	150.
125	67.	75.	77.	146.	156.
250	72.	79.	80.	144.	151.
500	74.	81.	83.	146.	149.
1000	74.	81.	84.	135.	147.
2000	77.	82.	84.	129.	144.
4000	76.	82.	82.	130.	145.
8000	70.	78.	78.	127.	141.
16000	62.	71.	72.	112.	129.

CONFIGURATION 52
T63-A-5A BASELINE (2ND REPEAT)
POWER SETTING 75
READING NO. 860

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	70.	68.	136.	147.
63	78.	76.	74.	138.	148.
80	68.	66.	67.	142.	150.
100	71.	70.	70.	143.	155.
125	74.	72.	74.	143.	150.
160	74.	72.	72.	143.	152.
200	74.	73.	74.	142.	150.
250	76.	76.	76.	139.	147.
315	78.	77.	78.	136.	146.
400	77.	75.	77.	140.	144.
500	79.	77.	78.	140.	145.
630	80.	78.	79.	145.	146.
800	79.	78.	80.	135.	143.
1000	80.	79.	81.	127.	142.
1250	80.	80.	79.	124.	143.
1600	81.	78.	79.	126.	141.
2000	81.	80.	80.	126.	140.
2500	80.	80.	78.	122.	140.
3150	82.	79.	80.	126.	139.
4000	81.	79.	78.	123.	143.
5000	81.	78.	77.	129.	141.
6300	78.	77.	75.	126.	138.
8000	77.	76.	74.	119.	139.
10000	74.	76.	73.	111.	130.
12500	72.	75.	71.	109.	129.
16000	69.	72.	70.	108.	123.
20000	65.	66.	66.	107.	120.
OCTAVE FREQ					
63	79.	77.	76.	144.	153.
125	78.	76.	77.	148.	158.
250	81.	80.	81.	144.	153.
500	84.	82.	83.	147.	150.
1000	84.	84.	85.	136.	147.
2000	85.	84.	84.	130.	145.
4000	86.	83.	83.	131.	146.
8000	81.	81.	79.	127.	142.
16000	74.	77.	74.	113.	130.

CONFIGURATION 52
T63-A-5A BASELINE (2ND REPEAT)
POWER SETTING 100
READING NO. 861

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	71.	69.	70.	143.	149.
63	77.	76.	77.	142.	151.
80	68.	67.	68.	145.	152.
100	72.	71.	73.	146.	155.
125	74.	73.	76.	144.	152.
160	75.	73.	73.	145.	154.
200	75.	74.	75.	145.	151.
250	78.	77.	78.	141.	148.
315	78.	77.	78.	136.	147.
400	77.	76.	77.	141.	146.
500	78.	77.	78.	142.	146.
630	81.	79.	79.	147.	148.
800	81.	79.	80.	138.	146.
1000	83.	80.	82.	129.	144.
1250	80.	79.	78.	125.	145.
1600	81.	80.	80.	127.	143.
2000	82.	80.	80.	129.	141.
2500	82.	80.	79.	123.	141.
3150	84.	80.	81.	126.	141.
4000	84.	80.	80.	126.	142.
5000	83.	79.	79.	130.	141.
6300	80.	79.	77.	128.	138.
8000	79.	78.	77.	121.	141.
10000	78.	78.	76.	115.	132.
12500	76.	78.	75.	117.	131.
16000	73.	76.	73.	117.	123.
20000	70.	70.	70.	117.	120.
OCTAVE FREQ					
63	78.	77.	78.	148.	156.
125	79.	77.	79.	150.	159.
250	82.	81.	82.	147.	154.
500	84.	82.	83.	149.	152.
1000	86.	84.	85.	139.	150.
2000	86.	85.	84.	132.	147.
4000	88.	84.	85.	133.	146.
8000	84.	83.	81.	129.	143.
16000	78.	81.	78.	122.	132.

CONFIGURATION 53
FINAL PRECHAMBER WALL FUEL FILM MOD B
POWER SETTING 10
READING NO. 883

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	63.		[illegible]	138.	150.
63	68.		0.	133.	145.
80	65.		0.	131.	147.
100	68.		0.	144.	165.
125	68.		0.	144.	160.
160	67.		0.	136.	149.
200	68.		0.	130.	146.
250	71.		0.	131.	147.
315	72.		0.	132.	145.
400	73.		0.	132.	144.
500	75.		0.	131.	146.
630	76.		0.	130.	144.
800	78.		0.	129.	143.
1000	80.		0.	139.	154.
1250	79.		0.	139.	152.
1600	78.		0.	127.	141.
2000	76.		0.	129.	142.
2500	76.		0.	127.	141.
3150	78.		0.	130.	143.
4000	75.		0.	132.	148.
5000	76.		0.	131.	146.
6300	71.		0.	128.	143.
8000	69.		0.	124.	140.
10000	68.		0.	121.	137.
12500	63.		0.	114.	128.
16000	60.		0.	111.	124.
20000	53.		0.	109.	122.
OCTAVE FREQ					
63	71.		0.	140.	153.
125	72.		0.	147.	166.
250	75.		0.	136.	151.
500	80.		0.	136.	150.
1000	84.		0.	142.	156.
2000	82.		0.	133.	146.
4000	81.		0.	136.	151.
8000	74.		0.	130.	145.
16000	65.		0.	117.	130.

CONFIGURATION 53
FINAL PRECHAMBER WALL FUEL FILM MOD B
POWER SETTING 25
READING NO. 884

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	71.	64.	0.	129.	142.
63	71.	68.	0.	129.	139.
80	68.	64.	0.	129.	138.
100	68.	67.	0.	140.	152.
125	71.	71.	0.	151.	159.
160	69.	68.	0.	142.	151.
200	70.	67.	0.	129.	140.
250	73.	72.	0.	133.	150.
315	74.	72.	0.	135.	144.
400	74.	73.	0.	138.	143.
500	77.	75.	0.	133.	142.
630	78.	77.	0.	126.	140.
800	79.	77.	0.	126.	137.
1000	80.	78.	0.	122.	147.
1250	83.	83.	0.	122.	149.
1600	79.	77.	0.	125.	134.
2000	77.	76.	0.	123.	134.
2500	77.	75.	0.	120.	135.
3150	79.	78.	0.	124.	139.
4000	77.	76.	0.	118.	142.
5000	78.	74.	0.	122.	140.
6300	73.	72.	0.	121.	137.
8000	70.	69.	0.	114.	134.
10000	67.	68.	0.	107.	130.
12500	62.	65.	0.	108.	123.
16000	58.	61.	0.	108.	122.
20000	53.	54.	0.	108.	121.
OCTAVE FREQ					
63	75.	71.	0.	134.	145.
125	74.	74.	0.	152.	160.
250	77.	76.	0.	138.	151.
500	81.	80.	0.	139.	147.
1000	86.	85.	0.	129.	151.
2000	83.	81.	0.	128.	139.
4000	83.	81.	0.	127.	145.
8000	75.	75.	0.	122.	139.
16000	64.	67.	0.	113.	127.

CONFIGURATION 53
FINAL PRECHAMBER WALL FUEL FILM MOD B
POWER SETTING 40
READING NO. 885

1/3 OCT FREQ	MICROPHCNE POSITION 1	2	3	4	5
50	67.	64.	0.	130.	139.
63	70.	68.	0.	134.	145.
80	66.	63.	0.	132.	139.
100	68.	66.	0.	134.	147.
125	72.	75.	0.	156.	167.
160	72.	73.	0.	155.	165.
200	71.	69.	0.	135.	144.
250	74.	73.	0.	137.	155.
315	76.	74.	0.	141.	155.
400	79.	79.	0.	149.	150.
500	79.	77.	0.	142.	147.
630	82.	80.	0.	135.	147.
800	82.	79.	0.	132.	141.
1000	80.	79.	0.	126.	145.
1250	85.	85.	0.	126.	149.
1600	82.	80.	0.	128.	137.
2000	79.	78.	0.	127.	135.
2500	78.	77.	0.	123.	137.
3150	81.	80.	0.	126.	140.
4000	79.	77.	0.	121.	139.
5000	80.	76.	0.	125.	138.
6300	76.	74.	0.	124.	137.
8000	74.	73.	0.	118.	136.
10000	70.	70.	0.	115.	131.
12500	64.	66.	0.	118.	132.
16000	61.	63.	0.	118.	131.
20000	55.	56.	0.	118.	130.
OCTAVE FREQ					
63	73.	70.	0.	137.	147.
125	76.	77.	0.	159.	169.
250	79.	77.	0.	143.	158.
500	85.	84.	0.	150.	153.
1000	88.	87.	0.	134.	151.
2000	85.	83.	0.	131.	141.
4000	85.	83.	0.	129.	144.
8000	79.	77.	0.	125.	140.
16000	66.	68.	0.	123.	136.

CONFIGURATION 53
FINAL PRECHAMBER WALL FUEL FILM MOD B
POWER SETTING 55
READING NO. 886

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	71.	68.	0.	133.	142.
63	80.	79.	0.	137.	146.
80	68.	65.	0.	135.	141.
100	70.	67.	0.	138.	148.
125	81.	79.	0.	158.	169.
160	77.	77.	0.	155.	166.
200	73.	73.	0.	138.	146.
250	78.	76.	0.	143.	155.
315	81.	78.	0.	142.	153.
400	82.	80.	0.	148.	149.
500	81.	80.	0.	143.	150.
630	84.	82.	0.	137.	149.
800	84.	81.	0.	135.	143.
1000	81.	80.	0.	129.	141.
1250	85.	83.	0.	128.	146.
1600	83.	81.	0.	130.	137.
2000	80.	78.	0.	129.	136.
2500	82.	79.	0.	126.	138.
3150	83.	81.	0.	128.	140.
4000	80.	78.	0.	124.	137.
5000	81.	77.	0.	126.	137.
6300	77.	75.	0.	124.	137.
8000	74.	73.	0.	118.	136.
10000	71.	71.	0.	115.	131.
12500	66.	68.	0.	118.	133.
16000	61.	64.	0.	118.	131.
20000	55.	57.	0.	118.	131.

OCTAVE FREQ					
63	81.	79.	0.	140.	148.
125	83.	81.	0.	160.	171.
250	83.	81.	0.	146.	157.
500	87.	86.	0.	149.	154.
1000	88.	86.	0.	137.	149.
2000	87.	84.	0.	133.	142.
4000	86.	84.	0.	131.	143.
8000	79.	78.	0.	125.	140.
16000	67.	70.	0.	123.	137.

CONFIGURATION 53
FINAL PRECHAMBER WALL FUEL FILM MOD 8
POWER SETTING 75
READING NO. 887

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	72.	77.	0.	133.	143.
63	81.	79.	0.	136.	147.
80	68.	74.	0.	134.	142.
100	71.	74.	0.	136.	149.
125	80.	79.	0.	156.	166.
160	77.	79.	0.	157.	168.
200	74.	74.	0.	138.	147.
250	77.	75.	0.	141.	153.
315	80.	78.	0.	143.	155.
400	81.	80.	0.	147.	151.
500	82.	80.	0.	144.	147.
630	83.	82.	0.	134.	150.
800	83.	81.	0.	135.	144.
1000	81.	81.	0.	128.	141.
1250	86.	86.	0.	127.	147.
1600	83.	82.	0.	129.	138.
2000	82.	80.	0.	129.	138.
2500	83.	80.	0.	125.	140.
3150	84.	83.	0.	126.	140.
4000	82.	79.	0.	123.	139.
5000	82.	79.	0.	127.	138.
6300	79.	77.	0.	125.	139.
8000	77.	75.	0.	119.	138.
10000	73.	75.	0.	115.	133.
12500	69.	72.	0.	118.	134.
16000	66.	68.	0.	118.	132.
20000	62.	62.	0.	118.	131.
OCTAVE FREQ					
63	82.	82.	0.	139.	149.
125	82.	83.	0.	160.	170.
250	82.	81.	0.	146.	158.
500	87.	86.	0.	149.	154.
1000	89.	88.	0.	136.	149.
2000	87.	86.	0.	133.	144.
4000	88.	86.	0.	130.	144.
8000	82.	81.	0.	126.	142.
16000	71.	74.	0.	123.	137.

CONFIGURATION 54
FINAL PRECHAMBER PRESSURE ATOMIZER MOD B
POWER SETTING 10
READING NO. 889

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	63.		0.	133.	142.
63	66.		0.	132.	140.
80	66.		0.	132.	139.
100	67.		0.	134.	144.
125	71.		0.	147.	158.
160	75.		0.	152.	161.
200	69.		0.	133.	142.
250	73.		0.	138.	147.
315	76.		0.	146.	152.
400	75.		0.	143.	142.
500	77.		0.	138.	145.
630	79.		0.	132.	143.
800	79.		0.	129.	136.
1000	78.		0.	125.	136.
1250	75.		0.	125.	134.
1600	77.		0.	125.	134.
2000	76.		0.	125.	135.
2500	75.		0.	123.	132.
3150	78.		0.	126.	134.
4000	75.		0.	126.	138.
5000	76.		0.	125.	137.
6300	72.		0.	123.	133.
8000	70.		0.	119.	132.
10000	68.		0.	115.	127.
12500	64.		0.	111.	123.
16000	60.		0.	109.	121.
20000	54.		0.	108.	121.
OCTAVE FREQ					
63	70.		0.	137.	145.
125	77.		0.	153.	163.
250	78.		0.	147.	154.
500	82.		0.	144.	148.
1000	82.		0.	132.	140.
2000	81.		0.	129.	139.
4000	81.		0.	130.	141.
8000	75.		0.	125.	136.
16000	66.		0.	114.	127.

CONFIGURATION 54
FINAL PRECHAMBER PRESSURE ATOMIZER MOD B
POWER SETTING 25
READING NO. 890

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	67.	0.	134.	145.
63	69.	67.	0.	133.	142.
80	68.	66.	0.	134.	139.
100	67.	66.	0.	133.	145.
125	70.	68.	0.	142.	153.
160	74.	75.	0.	153.	164.
200	70.	69.	0.	138.	146.
250	73.	71.	0.	133.	143.
315	78.	74.	0.	146.	151.
400	75.	74.	0.	141.	142.
500	79.	78.	0.	142.	147.
630	79.	79.	0.	131.	143.
800	78.	77.	0.	130.	138.
1000	78.	76.	0.	124.	138.
1250	76.	75.	0.	123.	137.
1600	79.	77.	0.	125.	136.
2000	78.	77.	0.	124.	137.
2500	77.	76.	0.	122.	136.
3150	80.	79.	0.	125.	136.
4000	78.	77.	0.	119.	139.
5000	79.	76.	0.	123.	137.
6300	74.	73.	0.	122.	136.
8000	72.	70.	0.	115.	133.
10000	68.	69.	0.	110.	131.
12500	62.	65.	0.	110.	125.
16000	58.	61.	0.	109.	122.
20000	53.	55.	0.	108.	121.
OCTAVE FREQ					
63	73.	71.	0.	138.	147.
125	76.	76.	0.	153.	164.
250	80.	77.	0.	147.	153.
500	83.	82.	0.	145.	149.
1000	82.	81.	0.	132.	142.
2000	83.	81.	0.	129.	141.
4000	84.	82.	0.	128.	142.
8000	77.	76.	0.	123.	139.
16000	64.	67.	0.	114.	128.

CONFIGURATION 54
FINAL PRECHAMBER PRESSURE ATOMIZER MOD B
POWER SETTING 40
READING NO. 891

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	71.	68.	0.	136.	146.
63	70.	68.	0.	135.	143.
80	67.	65.	0.	136.	142.
100	69.	67.	0.	134.	146.
125	70.	69.	0.	138.	147.
160	74.	74.	0.	148.	159.
200	71.	69.	0.	138.	146.
250	73.	71.	0.	129.	141.
315	74.	73.	0.	139.	144.
400	75.	74.	0.	137.	143.
500	79.	77.	0.	135.	145.
630	78.	78.	0.	128.	143.
800	78.	76.	0.	128.	138.
1000	79.	76.	0.	124.	138.
1250	78.	76.	0.	124.	138.
1600	80.	78.	0.	126.	137.
2000	80.	78.	0.	126.	137.
2500	78.	76.	0.	123.	137.
3150	81.	79.	0.	126.	138.
4000	80.	77.	0.	122.	138.
5000	80.	76.	0.	126.	137.
6300	76.	74.	0.	123.	136.
8000	73.	73.	0.	118.	134.
10000	70.	70.	0.	112.	130.
12500	64.	66.	0.	109.	128.
16000	60.	64.	0.	108.	123.
20000	55.	57.	0.	108.	121.
OCTAVE FREQ					
63	74.	72.	0.	140.	149.
125	76.	76.	0.	149.	159.
250	78.	76.	0.	142.	149.
500	82.	81.	0.	139.	149.
1000	83.	81.	0.	131.	143.
2000	84.	82.	0.	130.	142.
4000	85.	82.	0.	130.	142.
8000	78.	77.	0.	124.	139.
16000	66.	68.	0.	113.	130.

CONFIGURATION 54
FINAL PRECHAMBER PRESSURE ATOMIZER MOD B
POWER SETTING 55
READING NO. 892

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	75.		0.	138.	151.
63	80.		0.	138.	148.
80	72.		0.	139.	148.
100	74.		0.	137.	150.
125	74.		0.	139.	147.
160	73.		0.	143.	152.
200	74.		0.	140.	148.
250	74.		0.	133.	144.
315	77.		0.	136.	143.
400	78.		0.	144.	148.
500	77.		0.	136.	145.
630	79.		0.	129.	145.
800	78.		0.	129.	139.
1000	78.		0.	126.	138.
1250	89.		0.	125.	139.
1600	81.		0.	127.	137.
2000	80.		0.	127.	137.
2500	85.		0.	124.	138.
3150	79.		0.	126.	136.
4000	78.		0.	123.	136.
5000	78.		0.	128.	137.
6300	77.		0.	123.	136.
8000	76.		0.	121.	135.
10000	72.		0.	113.	130.
12500	70.		0.	110.	128.
16000	67.		0.	109.	124.
20000	62.		0.	108.	121.
OCTAVE FREQ					
63	82.		0.	143.	154.
125	78.		0.	145.	155.
250	80.		0.	142.	150.
500	83.		0.	145.	151.
1000	90.		0.	132.	143.
2000	87.		0.	131.	142.
4000	83.		0.	131.	141.
8000	90.		0.	125.	139.
16000	72.		0.	114.	130.

CONFIGURATION 54
FINAL PRECHAMBER PRESSURE ATOMIZER MOD B
POWER SETTING 75
READING NO. 893

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	74.	73.	0.	142.	152.
63	82.	80.	0.	140.	151.
80	69.	67.	0.	143.	151.
100	72.	70.	0.	141.	152.
125	79.	73.	0.	141.	151.
160	74.	72.	0.	142.	154.
200	75.	73.	0.	140.	148.
250	77.	75.	0.	135.	147.
315	79.	76.	0.	134.	145.
400	80.	77.	0.	140.	145.
500	80.	79.	0.	136.	144.
630	80.	81.	0.	128.	144.
800	80.	79.	0.	129.	140.
1000	80.	79.	0.	126.	139.
1250	80.	79.	0.	124.	141.
1600	82.	79.	0.	128.	139.
2000	82.	81.	0.	128.	138.
2500	82.	83.	0.	123.	140.
3150	82.	80.	0.	125.	137.
4000	81.	79.	0.	122.	137.
5000	82.	78.	0.	128.	137.
6300	78.	76.	0.	123.	137.
8000	77.	75.	0.	119.	137.
10000	73.	73.	0.	112.	131.
12500	69.	70.	0.	109.	129.
16000	66.	68.	0.	108.	125.
20000	62.	62.	0.	108.	121.
OCTAVE FREQ					
63	83.	81.	0.	147.	156.
125	81.	77.	0.	146.	157.
250	82.	80.	0.	142.	152.
500	85.	84.	0.	142.	149.
1000	85.	84.	0.	132.	145.
2000	87.	86.	0.	132.	144.
4000	86.	84.	0.	130.	142.
8000	81.	80.	0.	125.	141.
16000	71.	73.	0.	113.	131.

CONFIGURATION 54
FINAL PRECHAMBER PRESSURE ATOMIZER MOD B
POWER SETTING 100
READING NO. 894

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	75.	72.	0.	145.	155.
63	82.	79.	0.	143.	152.
80	69.	68.	0.	144.	153.
100	74.	74.	0.	143.	155.
125	79.	75.	0.	145.	155.
160	75.	73.	0.	147.	158.
200	76.	74.	0.	142.	150.
250	79.	76.	0.	137.	148.
315	79.	77.	0.	136.	148.
400	79.	77.	0.	140.	147.
500	81.	79.	0.	140.	145.
630	81.	80.	0.	130.	145.
800	80.	79.	0.	130.	142.
1000	81.	80.	0.	127.	140.
1250	81.	79.	0.	125.	142.
1600	82.	80.	0.	128.	140.
2000	82.	80.	0.	129.	140.
2500	80.	80.	0.	124.	142.
3150	83.	81.	0.	125.	140.
4000	82.	80.	0.	124.	139.
5000	81.	80.	0.	125.	139.
6300	78.	77.	0.	123.	139.
8000	77.	77.	0.	119.	139.
10000	77.	78.	0.	115.	134.
12500	71.	74.	0.	118.	130.
16000	68.	71.	0.	118.	125.
20000	64.	65.	0.	118.	121.
OCTAVE FREQ					
63	83.	80.	0.	149.	158.
125	81.	79.	0.	150.	161.
250	83.	81.	0.	144.	154.
500	85.	84.	0.	143.	151.
1000	85.	84.	0.	133.	146.
2000	86.	85.	0.	132.	146.
4000	87.	85.	0.	129.	144.
8000	82.	82.	0.	125.	143.
16000	73.	76.	0.	123.	132.

CONFIGURATION 55
FINAL PRECHAMBER WALL FILM MOD C
POWER SETTING 10
READING NO. 934

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	71.	73.	0.	128.	140.
63	70.	71.	0.	130.	139.
80	69.	66.	0.	130.	139.
100	68.	69.	0.	143.	159.
125	72.	72.	0.	144.	154.
160	74.	71.	0.	133.	141.
200	71.	69.	0.	128.	141.
250	74.	71.	0.	131.	144.
315	75.	73.	0.	133.	140.
400	74.	73.	0.	133.	137.
500	79.	76.	0.	125.	138.
630	76.	74.	0.	124.	135.
800	76.	75.	0.	124.	134.
1000	76.	76.	0.	122.	134.
1250	76.	74.	0.	122.	133.
1600	78.	76.	0.	123.	133.
2000	77.	75.	0.	122.	136.
2500	76.	74.	0.	119.	133.
3150	79.	76.	0.	125.	134.
4000	78.	75.	0.	117.	141.
5000	78.	74.	0.	121.	139.
6300	73.	71.	0.	120.	134.
8000	70.	69.	0.	112.	133.
10000	67.	67.	0.	106.	129.
12500	61.	63.	0.	108.	124.
16000	57.	60.	0.	107.	121.
20000	53.	54.	0.	107.	121.
OCTAVE FREQ					
63	75.	76.	0.	134.	144.
125	77.	76.	0.	147.	160.
250	78.	76.	0.	136.	147.
500	82.	79.	0.	134.	142.
1000	81.	80.	0.	128.	138.
2000	82.	80.	0.	126.	139.
4000	83.	80.	0.	127.	144.
8000	75.	74.	0.	121.	137.
16000	63.	65.	0.	112.	127.

CONFIGURATION 55
FINAL PRECHAMBER WALL FILM MOD C
POWER SETTING 25
READING NO. 935

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	71.	66.	0.	130.	140.
63	72.	69.	0.	134.	146.
80	69.	65.	0.	132.	139.
100	69.	65.	0.	135.	146.
125	75.	75.	0.	156.	167.
160	75.	73.	0.	154.	164.
200	72.	70.	0.	135.	144.
250	78.	77.	0.	142.	157.
315	77.	76.	0.	143.	154.
400	79.	77.	0.	151.	147.
500	80.	78.	0.	142.	151.
630	81.	79.	0.	138.	149.
800	81.	78.	0.	135.	139.
1000	79.	79.	0.	126.	138.
1250	79.	77.	0.	126.	137.
1600	82.	80.	0.	128.	136.
2000	79.	78.	0.	126.	138.
2500	78.	77.	0.	124.	137.
3150	82.	80.	0.	127.	139.
4000	80.	77.	0.	124.	142.
5000	79.	75.	0.	125.	140.
6300	75.	73.	0.	124.	138.
8000	72.	71.	0.	119.	135.
10000	70.	70.	0.	116.	133.
12500	64.	66.	0.	118.	131.
16000	60.	62.	0.	118.	131.
20000	55.	56.	0.	118.	131.
OCTAVE FREQ					
63	76.	72.	0.	137.	148.
125	79.	77.	0.	158.	169.
250	81.	80.	0.	146.	159.
500	85.	83.	0.	152.	154.
1000	85.	83.	0.	136.	143.
2000	85.	83.	0.	131.	142.
4000	85.	83.	0.	130.	145.
8000	78.	76.	0.	126.	141.
16000	66.	68.	0.	123.	136.

CONFIGURATION 55
FINAL PRECHAMBER WALL FILM MOD C
POWER SETTING 40
READING NO. 936

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	73.	68.	0.	138.	142.
63	73.	70.	0.	139.	146.
80	70.	65.	0.	141.	141.
100	71.	67.	0.	144.	147.
125	73.	73.	0.	164.	166.
160	76.	78.	0.	170.	171.
200	72.	70.	0.	147.	148.
250	76.	73.	0.	149.	154.
315	79.	75.	0.	156.	161.
400	79.	77.	0.	162.	146.
500	81.	79.	0.	156.	151.
630	84.	83.	0.	152.	155.
800	83.	81.	0.	151.	144.
1000	82.	82.	0.	140.	140.
1250	83.	81.	0.	137.	141.
1600	84.	81.	0.	138.	138.
2000	82.	80.	0.	136.	140.
2500	80.	78.	0.	133.	140.
3150	82.	81.	0.	135.	140.
4000	81.	78.	0.	130.	139.
5000	81.	77.	0.	133.	138.
6300	78.	75.	0.	133.	137.
8000	74.	73.	0.	126.	135.
10000	72.	71.	0.	120.	132.
12500	66.	67.	0.	119.	133.
16000	61.	64.	0.	118.	131.
20000	56.	59.	0.	118.	131.
OCTAVE FREQ					
63	77.	73.	0.	144.	148.
125	79.	79.	0.	171.	172.
250	81.	78.	0.	157.	162.
500	87.	85.	0.	163.	157.
1000	87.	86.	0.	151.	147.
2000	87.	85.	0.	141.	144.
4000	86.	84.	0.	138.	144.
8000	80.	78.	0.	134.	140.
16000	68.	69.	0.	123.	137.

CONFIGURATION 55
FINAL PRECHAMBER WALL FILM MOD C
POWER SETTING 55
READING NO. 937

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	75.	70.	0.	133.	143.
63	81.	79.	0.	135.	146.
80	71.	66.	0.	134.	141.
100	72.	69.	0.	134.	147.
125	76.	74.	0.	153.	164.
160	81.	79.	0.	160.	171.
200	76.	72.	0.	139.	148.
250	78.	75.	0.	138.	152.
315	83.	79.	0.	148.	160.
400	80.	79.	0.	150.	147.
500	83.	80.	0.	149.	150.
630	86.	84.	0.	142.	155.
800	84.	81.	0.	142.	144.
1000	83.	82.	0.	132.	140.
1250	83.	81.	0.	129.	141.
1600	85.	82.	0.	131.	139.
2000	83.	81.	0.	129.	140.
2500	84.	80.	0.	125.	140.
3150	83.	82.	0.	127.	138.
4000	81.	79.	0.	123.	139.
5000	81.	78.	0.	126.	139.
6300	79.	76.	0.	125.	138.
8000	76.	74.	0.	119.	136.
10000	74.	73.	0.	115.	133.
12500	68.	69.	0.	118.	133.
16000	65.	66.	0.	118.	131.
20000	62.	60.	0.	118.	131.
OCTAVE FREQ					
63	82.	80.	0.	139.	149.
125	83.	81.	0.	161.	172.
250	85.	81.	0.	149.	161.
500	88.	86.	0.	153.	157.
1000	88.	86.	0.	143.	147.
2000	89.	86.	0.	134.	144.
4000	87.	85.	0.	130.	143.
8000	82.	79.	0.	126.	141.
16000	70.	71.	0.	123.	137.

CONFIGURATION 55
FINAL PRECHAMBER WALL FILM MOD C
POWER SETTING 75
READING NO. 938

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	74.	71.	0.	134.	144.
63	80.	80.	0.	135.	147.
80	71.	68.	0.	134.	143.
100	72.	70.	0.	134.	146.
125	76.	74.	0.	150.	161.
160	80.	79.	0.	157.	168.
200	76.	73.	0.	138.	147.
250	78.	76.	0.	135.	149.
315	81.	78.	0.	142.	155.
400	80.	78.	0.	146.	146.
500	82.	80.	0.	145.	148.
630	84.	82.	0.	137.	152.
800	83.	80.	0.	137.	143.
1000	81.	81.	0.	129.	139.
1250	83.	81.	0.	128.	141.
1600	85.	82.	0.	130.	139.
2000	83.	81.	0.	130.	139.
2500	83.	81.	0.	125.	140.
3150	83.	82.	0.	127.	139.
4000	82.	79.	0.	123.	139.
5000	82.	80.	0.	128.	139.
6300	80.	78.	0.	125.	138.
8000	80.	79.	0.	120.	137.
10000	76.	76.	0.	115.	133.
12500	71.	72.	0.	118.	134.
16000	68.	69.	0.	117.	132.
20000	64.	64.	0.	117.	131.
OCTAVE FREQ					
63	81.	81.	0.	139.	150.
125	82.	81.	0.	158.	169.
250	84.	81.	0.	144.	156.
500	87.	85.	0.	149.	154.
1000	87.	85.	0.	138.	146.
2000	89.	86.	0.	134.	144.
4000	87.	85.	0.	131.	144.
8000	84.	83.	0.	127.	141.
16000	73.	74.	0.	122.	137.

CONFIGURATION 56
FINAL MODIFIED CONVENTIONAL MOD B 0/0 OPEN DZ = 50
POWER SETTING 10
READING NO. 947

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	72.	68.	0.	126.	138.
63	72.	68.	0.	132.	139.
80	70.	68.	0.	130.	139.
100	71.	66.	0.	130.	143.
125	71.	67.	0.	130.	139.
160	72.	68.	0.	132.	141.
200	71.	70.	0.	131.	142.
250	73.	72.	0.	129.	144.
315	76.	75.	0.	136.	144.
400	75.	73.	0.	132.	139.
500	78.	76.	0.	133.	141.
630	76.	76.	0.	133.	141.
800	77.	77.	0.	126.	139.
1000	76.	75.	0.	121.	139.
1250	76.	74.	0.	120.	138.
1600	76.	74.	0.	122.	137.
2000	75.	73.	0.	118.	135.
2500	75.	74.	0.	118.	133.
3150	77.	75.	0.	126.	137.
4000	76.	75.	0.	118.	142.
5000	74.	72.	0.	121.	137.
6300	72.	70.	0.	121.	133.
8000	70.	69.	0.	112.	128.
10000	67.	66.	0.	105.	128.
12500	62.	63.	0.	102.	122.
16000	58.	61.	0.	100.	114.
20000	53.	54.	0.	99.	111.
OCTAVE FREQ					
63	76.	73.	0.	135.	143.
125	76.	72.	0.	136.	146.
250	79.	78.	0.	138.	148.
500	81.	80.	0.	137.	145.
1000	81.	80.	0.	128.	143.
2000	80.	78.	0.	125.	140.
4000	81.	79.	0.	128.	144.
8000	75.	73.	0.	122.	135.
16000	64.	65.	0.	105.	123.

CONFIGURATION 56
FINAL MODIFIED CONVENTIONAL MOD B 0/0 OPEN DZ = 50
POWER SETTING 25
READING NO. 949

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	73.	68.	0.	140.	141.
63	72.	69.	0.	142.	142.
80	70.	67.	0.	143.	142.
100	70.	67.	0.	143.	145.
125	71.	68.	0.	142.	141.
160	72.	70.	0.	145.	144.
200	73.	70.	0.	144.	145.
250	75.	73.	0.	143.	147.
315	75.	74.	0.	145.	145.
400	76.	74.	0.	143.	139.
500	78.	77.	0.	144.	143.
630	76.	77.	0.	148.	144.
800	78.	77.	0.	138.	141.
1000	78.	76.	0.	132.	141.
1250	77.	76.	0.	132.	140.
1600	79.	77.	0.	133.	139.
2000	78.	76.	0.	130.	137.
2500	77.	76.	0.	129.	136.
3150	79.	78.	0.	137.	143.
4000	79.	77.	0.	130.	145.
5000	76.	74.	0.	133.	141.
6300	74.	73.	0.	133.	136.
8000	78.	77.	0.	124.	131.
10000	75.	72.	0.	118.	127.
12500	66.	67.	0.	113.	122.
16000	63.	66.	0.	111.	116.
20000	55.	57.	0.	109.	112.
OCTAVE FREQ					
63	77.	73.	0.	147.	146.
125	76.	73.	0.	148.	148.
250	79.	77.	0.	149.	151.
500	82.	81.	0.	150.	147.
1000	82.	81.	0.	140.	145.
2000	83.	81.	0.	136.	142.
4000	83.	81.	0.	139.	148.
8000	81.	79.	0.	134.	138.
16000	68.	70.	0.	116.	123.

CONFIGURATION 56
FINAL MODIFIED CONVENTIONAL MOD B 0/0 OPEN DZ = 50
POWER SETTING 40
READING NO. 951

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	74.	67.	0.	131.	142.
63	73.	69.	0.	136.	142.
80	70.	65.	0.	137.	144.
100	69.	66.	0.	136.	146.
125	72.	68.	0.	134.	142.
160	73.	71.	0.	137.	145.
200	73.	71.	0.	136.	145.
250	74.	73.	0.	135.	147.
315	75.	74.	0.	137.	147.
400	75.	74.	0.	136.	142.
500	79.	78.	0.	135.	144.
630	78.	77.	0.	139.	145.
800	80.	78.	0.	130.	142.
1000	79.	77.	0.	124.	142.
1250	79.	77.	0.	124.	142.
1600	80.	78.	0.	125.	141.
2000	80.	79.	0.	124.	138.
2500	78.	77.	0.	123.	138.
3150	80.	78.	0.	129.	142.
4000	79.	78.	0.	125.	145.
5000	78.	76.	0.	126.	144.
6300	77.	75.	0.	126.	137.
8000	78.	80.	0.	119.	134.
10000	74.	75.	0.	112.	129.
12500	70.	70.	0.	111.	127.
16000	69.	70.	0.	108.	117.
20000	61.	60.	0.	108.	112.
OCTAVE FREQ					
63	77.	72.	0.	140.	148.
125	76.	74.	0.	141.	149.
250	79.	78.	0.	141.	151.
500	82.	81.	0.	142.	149.
1000	84.	82.	0.	132.	147.
2000	84.	83.	0.	129.	144.
4000	84.	82.	0.	132.	149.
8000	81.	82.	0.	127.	139.
16000	73.	73.	0.	114.	128.

CONFIGURATION 56
FINAL MODIFIED CONVENTIONAL MOD B O/O OPEN DZ = 50
POWER SETTING 55
READING NO. 954

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	75.	75.	0.	133.	142.
63	80.	79.	0.	134.	142.
80	72.	72.	0.	136.	145.
100	73.	73.	0.	137.	148.
125	73.	73.	0.	136.	143.
160	74.	74.	0.	138.	146.
200	75.	75.	0.	137.	147.
250	77.	76.	0.	136.	149.
315	78.	77.	0.	135.	148.
400	78.	76.	0.	136.	143.
500	80.	79.	0.	135.	145.
630	80.	80.	0.	140.	147.
800	81.	79.	0.	131.	143.
1000	81.	80.	0.	125.	142.
1250	92.	96.	0.	123.	143.
1600	84.	85.	0.	125.	142.
2000	82.	80.	0.	125.	140.
2500	85.	86.	0.	122.	140.
3150	82.	80.	0.	128.	140.
4000	82.	79.	0.	123.	147.
5000	81.	80.	0.	128.	145.
6300	80.	78.	0.	126.	139.
8000	93.	86.	0.	118.	138.
10000	89.	80.	0.	112.	132.
12500	75.	74.	0.	110.	130.
16000	72.	73.	0.	109.	123.
20000	69.	67.	0.	108.	121.
OCTAVE FREQ					
63	82.	81.	0.	139.	148.
125	78.	78.	0.	142.	151.
250	82.	81.	0.	141.	153.
500	84.	83.	0.	142.	150.
1000	93.	96.	0.	132.	147.
2000	89.	89.	0.	129.	146.
4000	86.	84.	0.	132.	150.
8000	95.	87.	0.	127.	142.
16000	77.	77.	0.	114.	131.

CONFIGURATION 56
FINAL MODIFIED CONVENTIONAL MOD 8 0/0 OPEN DZ = 50
POWER SETTING 75
READING NO. 955

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	75.	71.	0.	134.	144.
63	70.	79.	0.	136.	145.
80	71.	68.	0.	137.	147.
100	72.	70.	0.	138.	151.
125	75.	71.	0.	135.	146.
160	75.	73.	0.	138.	149.
200	75.	74.	0.	139.	150.
250	79.	76.	0.	137.	150.
315	79.	78.	0.	134.	148.
400	79.	77.	0.	137.	145.
500	80.	79.	0.	136.	146.
630	80.	80.	0.	140.	149.
800	80.	80.	0.	132.	146.
1000	81.	79.	0.	126.	144.
1250	80.	78.	0.	125.	146.
1600	82.	80.	0.	126.	144.
2000	82.	81.	0.	126.	142.
2500	83.	82.	0.	123.	141.
3150	83.	81.	0.	127.	142.
4000	83.	80.	0.	124.	145.
5000	81.	80.	0.	131.	146.
6300	81.	79.	0.	126.	141.
8000	93.	85.	0.	122.	143.
10000	90.	82.	0.	113.	134.
12500	78.	77.	0.	110.	136.
16000	75.	75.	0.	109.	125.
20000	70.	68.	0.	108.	122.
OCTAVE FREQ					
63	82.	80.	0.	141.	150.
125	79.	76.	0.	142.	154.
250	83.	81.	0.	142.	154.
500	84.	84.	0.	143.	152.
1000	85.	84.	0.	134.	150.
2000	87.	86.	0.	130.	147.
4000	87.	85.	0.	133.	149.
8000	95.	87.	0.	128.	145.
16000	80.	79.	0.	114.	136.

CONFIGURATION 56
FINAL MODIFIED CONVENTIONAL MOD B 0/0 OPEN DZ = 50
POWER SETTING 100
READING NO. 957

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	77.	76.	0.	133.	145.
63	80.	79.	0.	135.	146.
80	75.	72.	0.	138.	145.
100	76.	74.	0.	138.	149.
125	76.	74.	0.	137.	146.
160	75.	74.	0.	139.	149.
200	76.	75.	0.	140.	150.
250	77.	77.	0.	138.	149.
315	78.	77.	0.	133.	147.
400	78.	76.	0.	137.	145.
500	81.	79.	0.	137.	145.
630	82.	81.	0.	142.	148.
800	82.	80.	0.	134.	145.
1000	81.	79.	0.	127.	144.
1250	80.	79.	0.	126.	145.
1600	83.	81.	0.	126.	144.
2000	85.	83.	0.	128.	142.
2500	86.	84.	0.	123.	141.
3150	86.	84.	0.	126.	140.
4000	84.	82.	0.	126.	141.
5000	82.	81.	0.	128.	143.
6300	83.	82.	0.	126.	139.
8000	86.	84.	0.	121.	142.
10000	86.	83.	0.	113.	133.
12500	82.	80.	0.	110.	132.
16000	81.	78.	0.	108.	126.
20000	73.	71.	0.	108.	121.
OCTAVE FREQ					
63	83.	81.	0.	141.	150.
125	80.	79.	0.	143.	153.
250	82.	81.	0.	143.	154.
500	85.	84.	0.	144.	151.
1000	86.	84.	0.	135.	149.
2000	90.	88.	0.	131.	147.
4000	89.	87.	0.	132.	146.
8000	90.	88.	0.	127.	144.
16000	85.	82.	0.	114.	133.

CONFIGURATION 57
FINAL MODIFIED CONVENTIONAL MOD B 0/0 OPEN DZ = 72
POWER SETTING 10
READING NO. 945

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	71.	63.	0.	126.	134.
63	72.	68.	0.	129.	137.
80	70.	67.	0.	129.	137.
100	69.	66.	0.	130.	140.
125	70.	66.	0.	131.	137.
160	70.	68.	0.	133.	140.
200	70.	68.	0.	131.	140.
250	73.	70.	0.	129.	141.
315	74.	73.	0.	132.	139.
400	74.	71.	0.	129.	136.
500	78.	75.	0.	136.	141.
630	76.	75.	0.	137.	141.
800	76.	75.	0.	125.	138.
1000	76.	74.	0.	120.	138.
1250	75.	73.	0.	120.	137.
1600	76.	74.	0.	121.	136.
2000	75.	72.	0.	117.	135.
2500	74.	73.	0.	117.	132.
3150	76.	74.	0.	126.	137.
4000	76.	74.	0.	118.	142.
5000	73.	70.	0.	121.	137.
6300	70.	69.	0.	121.	135.
8000	68.	67.	0.	112.	128.
10000	67.	67.	0.	104.	126.
12500	62.	64.	0.	101.	119.
16000	59.	63.	0.	100.	114.
20000	54.	56.	0.	98.	112.
OCTAVE FREQ					
63	76.	71.	0.	133.	141.
125	74.	72.	0.	136.	144.
250	77.	76.	0.	136.	145.
500	81.	79.	0.	140.	145.
1000	80.	79.	0.	127.	142.
2000	80.	78.	0.	124.	139.
4000	80.	78.	0.	128.	144.
8000	73.	73.	0.	122.	136.
16000	64.	67.	0.	105.	121.

CONFIGURATION 57
FINAL MODIFIED CONVENTIONAL MOD B O/O OPEN DZ = 72
POWER SETTING 25
READING NO. 948

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	72.	65.	0.	129.	137.
63	72.	69.	0.	132.	139.
80	70.	66.	0.	133.	140.
100	70.	67.	0.	132.	144.
125	71.	67.	0.	132.	139.
160	72.	69.	0.	135.	142.
200	71.	70.	0.	133.	142.
250	74.	72.	0.	130.	143.
315	75.	74.	0.	132.	141.
400	75.	74.	0.	131.	138.
500	78.	77.	0.	135.	141.
630	77.	77.	0.	140.	143.
800	77.	76.	0.	127.	139.
1000	78.	75.	0.	122.	139.
1250	76.	74.	0.	121.	138.
1600	78.	76.	0.	123.	138.
2000	77.	77.	0.	120.	136.
2500	76.	74.	0.	119.	134.
3150	78.	77.	0.	127.	142.
4000	77.	75.	0.	120.	145.
5000	75.	72.	0.	122.	140.
6300	74.	71.	0.	123.	138.
8000	74.	74.	0.	114.	132.
10000	70.	69.	0.	107.	127.
12500	64.	63.	0.	102.	122.
16000	61.	62.	0.	101.	115.
20000	55.	54.	0.	99.	112.

OCTAVE FREQ	1	2	3	4	5
63	76.	72.	0.	136.	144.
125	76.	73.	0.	138.	147.
250	78.	77.	0.	137.	147.
500	82.	81.	0.	142.	146.
1000	82.	80.	0.	129.	143.
2000	82.	81.	0.	126.	141.
4000	82.	80.	0.	129.	148.
8000	78.	77.	0.	124.	139.
16000	66.	66.	0.	106.	123.

CONFIGURATION 57
FINAL MODIFIED CONVENTIONAL MOD B O/O OPEN DZ = 72
POWER SETTING 40
READING NO. 950

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	72.	68.	0.	132.	141.
63	73.	69.	0.	135.	140.
80	70.	66.	0.	136.	141.
100	71.	67.	0.	135.	146.
125	71.	69.	0.	135.	143.
160	72.	70.	0.	139.	146.
200	72.	71.	0.	138.	146.
250	75.	73.	0.	132.	144.
315	75.	73.	0.	132.	142.
400	75.	75.	0.	134.	140.
500	79.	78.	0.	137.	143.
630	77.	77.	0.	140.	143.
800	78.	78.	0.	130.	141.
1000	78.	76.	0.	124.	141.
1250	76.	75.	0.	123.	141.
1600	79.	77.	0.	125.	140.
2000	80.	78.	0.	123.	138.
2500	77.	76.	0.	122.	137.
3150	80.	78.	0.	128.	142.
4000	79.	77.	0.	123.	145.
5000	77.	75.	0.	125.	144.
6300	76.	75.	0.	126.	139.
8000	82.	80.	0.	117.	138.
10000	76.	74.	0.	110.	130.
12500	68.	69.	0.	110.	126.
16000	65.	68.	0.	109.	116.
20000	59.	60.	0.	108.	112.
OCTAVE FREQ					
63	77.	73.	0.	139.	145.
125	76.	74.	0.	142.	150.
250	79.	77.	0.	140.	149.
500	82.	82.	0.	142.	147.
1000	82.	81.	0.	132.	146.
2000	84.	82.	0.	128.	143.
4000	84.	82.	0.	131.	149.
8000	84.	82.	0.	127.	142.
16000	70.	72.	0.	114.	127.

CONFIGURATION 57
FINAL MODIFIED CONVENTIONAL MOD B 0/0 OPEN DZ = 72
POWER SETTING 55
READING NO. 953

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	76.	75.	0.	132.	142.
63	80.	79.	0.	134.	142.
80	74.	72.	0.	136.	143.
100	75.	74.	0.	137.	146.
125	76.	73.	0.	137.	142.
160	76.	74.	0.	139.	147.
200	76.	74.	0.	140.	146.
250	76.	76.	0.	134.	144.
315	79.	77.	0.	133.	142.
400	78.	77.	0.	136.	141.
500	80.	78.	0.	137.	144.
630	80.	79.	0.	141.	144.
800	80.	78.	0.	131.	142.
1000	80.	78.	0.	125.	141.
1250	78.	77.	0.	124.	142.
1600	81.	79.	0.	126.	141.
2000	81.	79.	0.	125.	138.
2500	80.	78.	0.	123.	139.
3150	80.	78.	0.	128.	142.
4000	80.	77.	0.	123.	144.
5000	78.	76.	0.	127.	144.
6300	77.	75.	0.	126.	138.
8000	89.	83.	0.	119.	141.
10000	84.	77.	0.	112.	130.
12500	74.	71.	0.	110.	127.
16000	72.	69.	0.	109.	117.
20000	67.	64.	0.	108.	112.
OCTAVE FREQ					
63	82.	81.	0.	139.	147.
125	80.	78.	0.	143.	150.
250	82.	81.	0.	142.	149.
500	84.	83.	0.	143.	148.
1000	84.	82.	0.	133.	146.
2000	85.	83.	0.	130.	144.
4000	84.	82.	0.	131.	148.
8000	90.	84.	0.	127.	143.
16000	77.	74.	0.	114.	128.

CONFIGURATION 57
FINAL MODIFIED CONVENTIONAL MOD B 0/0 OPEN DZ = 72
POWER SETTING 75
READING NO. 956

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	74.	70.	0.	134.	142.
63	80.	77.	0.	135.	143.
80	72.	68.	0.	139.	145.
100	73.	70.	0.	137.	148.
125	75.	72.	0.	138.	145.
160	75.	74.	0.	140.	149.
200	75.	74.	0.	139.	146.
250	77.	75.	0.	136.	145.
315	78.	78.	0.	134.	144.
400	78.	77.	0.	137.	142.
500	81.	79.	0.	137.	144.
630	80.	79.	0.	140.	145.
800	79.	79.	0.	132.	143.
1000	81.	79.	0.	125.	141.
1250	79.	78.	0.	124.	143.
1600	81.	79.	0.	125.	142.
2000	82.	81.	0.	125.	140.
2500	83.	80.	0.	122.	140.
3150	83.	80.	0.	126.	139.
4000	82.	79.	0.	123.	143.
5000	81.	79.	0.	130.	145.
6300	82.	79.	0.	126.	141.
8000	91.	83.	0.	121.	146.
10000	88.	80.	0.	112.	134.
12500	78.	76.	0.	109.	133.
16000	76.	74.	0.	108.	124.
20000	72.	68.	0.	108.	121.
OCTAVE FREQ					
63	81.	78.	0.	141.	148.
125	79.	77.	0.	143.	152.
250	82.	81.	0.	142.	150.
500	85.	83.	0.	143.	149.
1000	85.	83.	0.	133.	147.
2000	87.	85.	0.	129.	146.
4000	87.	84.	0.	132.	148.
8000	93.	86.	0.	127.	147.
16000	81.	79.	0.	113.	134.

CONFIGURATION 58
FINAL MODIFIED CONVENTIONAL MOD B 0/0 OPEN DZ = 100
POWER SETTING 10
READING NO. 946

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.	64.	0.	126.	134.
63	72.	68.	0.	130.	136.
80	70.	66.	0.	129.	136.
100	70.	66.	0.	130.	141.
125	71.	68.	0.	131.	139.
160	72.	69.	0.	133.	140.
200	73.	70.	0.	130.	138.
250	76.	73.	0.	127.	138.
315	77.	75.	0.	130.	137.
400	76.	73.	0.	130.	136.
500	79.	76.	0.	137.	141.
630	76.	75.	0.	134.	138.
800	76.	75.	0.	124.	136.
1000	77.	74.	0.	120.	137.
1250	75.	73.	0.	119.	136.
1600	76.	73.	0.	121.	135.
2000	75.	73.	0.	117.	135.
2500	75.	74.	0.	117.	132.
3150	76.	74.	0.	126.	137.
4000	76.	73.	0.	117.	142.
5000	73.	71.	0.	121.	138.
6300	70.	70.	0.	121.	134.
8000	71.	70.	0.	111.	129.
10000	68.	66.	0.	105.	125.
12500	62.	63.	0.	101.	119.
16000	58.	63.	0.	100.	114.
20000	53.	55.	0.	98.	111.
OCTAVE FREQ					
63	76.	71.	0.	133.	140.
125	76.	73.	0.	136.	145.
250	80.	78.	0.	134.	142.
500	82.	80.	0.	139.	144.
1000	81.	79.	0.	126.	141.
2000	80.	78.	0.	124.	139.
4000	80.	78.	0.	128.	144.
8000	75.	74.	0.	122.	136.
16000	64.	66.	0.	105.	121.

CONFIGURATION 58
FINAL MODIFIED CONVENTIONAL MOD B O/O OPEN DZ = 100
POWER SETTING 40
READING NO. 952

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	77.		0.	133.	141.
63	81.		0.	136.	142.
80	76.		0.	136.	142.
100	78.		0.	136.	146.
125	80.		0.	135.	142.
160	81.		0.	138.	144.
200	82.		0.	135.	142.
250	84.		0.	132.	142.
315	85.		0.	133.	140.
400	86.		0.	134.	139.
500	89.		0.	137.	142.
630	88.		0.	142.	143.
800	88.		0.	129.	141.
1000	88.		0.	124.	140.
1250	86.		0.	123.	140.
1600	88.		0.	124.	140.
2000	89.		0.	122.	138.
2500	87.		0.	121.	137.
3150	88.		0.	128.	141.
4000	87.		0.	122.	145.
5000	87.		0.	124.	144.
6300	85.		0.	125.	139.
8000	91.		0.	117.	136.
10000	84.		0.	110.	130.
12500	81.		0.	109.	126.
16000	80.		0.	108.	118.
20000	72.		0.	108.	112.
OCTAVE FREQ					
63	83.		0.	140.	146.
125	85.		0.	141.	149.
250	89.		0.	138.	146.
500	93.		0.	144.	146.
1000	92.		0.	131.	145.
2000	93.		0.	127.	143.
4000	92.		0.	130.	148.
8000	93.		0.	126.	141.
16000	84.		0.	113.	127.

CONFIGURATION 59
FINAL PRECHAMBER WALL FUEL FILM MOD D
POWER SETTING 10
READING NO. 1020

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	71.	66.	0.	127.	0.
63	73.	70.	0.	129.	0.
80	71.	64.	0.	127.	0.
100	71.	64.	0.	130.	0.
125	72.	67.	0.	146.	0.
160	71.	66.	0.	137.	0.
200	70.	67.	0.	127.	0.
250	72.	70.	0.	130.	0.
315	74.	72.	0.	133.	0.
400	74.	72.	0.	134.	0.
500	76.	75.	0.	125.	0.
630	76.	73.	0.	124.	0.
800	75.	72.	0.	124.	0.
1000	75.	73.	0.	121.	0.
1250	75.	73.	0.	122.	0.
1600	77.	74.	0.	124.	0.
2000	76.	74.	0.	122.	0.
2500	75.	72.	0.	120.	0.
3150	77.	74.	0.	125.	0.
4000	77.	74.	0.	117.	0.
5000	77.	72.	0.	123.	0.
6300	72.	69.	0.	119.	0.
8000	69.	67.	0.	114.	0.
10000	67.	66.	0.	107.	0.
12500	61.	63.	0.	110.	0.
16000	58.	61.	0.	110.	0.
20000	54.	56.	0.	110.	0.
OCTAVE FREQ					
63	77.	72.	0.	133.	0.
125	76.	71.	0.	147.	0.
250	77.	75.	0.	135.	0.
500	80.	78.	0.	135.	0.
1000	80.	77.	0.	127.	0.
2000	81.	78.	0.	127.	0.
4000	82.	78.	0.	128.	0.
8000	75.	72.	0.	120.	0.
16000	63.	66.	0.	115.	0.

CONFIGURATION 59
FINAL PRECHAMBER WALL FUEL FILM MOD D
POWER SETTING 25
READING NO. 1021

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	66.	0.	128.	0.
63	71.	69.	0.	130.	0.
80	68.	66.	0.	129.	0.
100	68.	66.	0.	130.	0.
125	72.	70.	0.	149.	0.
160	71.	69.	0.	146.	0.
200	70.	68.	0.	130.	0.
250	74.	71.	0.	134.	0.
315	76.	73.	0.	139.	0.
400	75.	72.	0.	142.	0.
500	77.	76.	0.	134.	0.
630	77.	75.	0.	128.	0.
800	78.	75.	0.	127.	0.
1000	77.	75.	0.	123.	0.
1250	77.	75.	0.	124.	0.
1600	80.	77.	0.	126.	0.
2000	78.	76.	0.	124.	0.
2500	78.	75.	0.	122.	0.
3150	80.	77.	0.	126.	0.
4000	78.	76.	0.	119.	0.
5000	79.	75.	0.	126.	0.
6300	74.	72.	0.	121.	0.
8000	71.	70.	0.	116.	0.
10000	68.	68.	0.	108.	0.
12500	63.	65.	0.	110.	0.
16000	59.	62.	0.	109.	0.
20000	56.	55.	0.	109.	0.
OCTAVE FREQ					
63	75.	72.	0.	134.	0.
125	75.	73.	0.	151.	0.
250	79.	76.	0.	141.	0.
500	81.	79.	0.	143.	0.
1000	82.	80.	0.	130.	0.
2000	84.	81.	0.	129.	0.
4000	84.	81.	0.	129.	0.
8000	76.	75.	0.	122.	0.
16000	65.	67.	0.	114.	0.

CONFIGURATION 59
FINAL PRECHAMBER WALL FUEL FILM MOD D
POWER SETTING 40
READING NO. 1022

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	63.	0.	129.	0.
63	71.	69.	0.	130.	0.
80	68.	63.	0.	131.	0.
100	69.	65.	0.	131.	0.
125	71.	68.	0.	141.	0.
160	74.	74.	0.	150.	0.
200	71.	68.	0.	134.	0.
250	74.	72.	0.	135.	0.
315	77.	75.	0.	145.	0.
400	79.	75.	0.	146.	0.
500	80.	78.	0.	146.	0.
630	82.	80.	0.	135.	0.
800	81.	79.	0.	131.	0.
1000	79.	78.	0.	126.	0.
1250	78.	77.	0.	126.	0.
1600	81.	79.	0.	128.	0.
2000	80.	78.	0.	126.	0.
2500	79.	76.	0.	122.	0.
3150	81.	78.	0.	126.	0.
4000	79.	77.	0.	121.	0.
5000	81.	77.	0.	129.	0.
6300	75.	74.	0.	122.	0.
8000	73.	72.	0.	119.	0.
10000	70.	70.	0.	110.	0.
12500	65.	67.	0.	110.	0.
16000	61.	63.	0.	109.	0.
20000	56.	57.	0.	109.	0.
OCTAVE FREQ					
63	75.	71.	0.	135.	0.
125	77.	75.	0.	151.	0.
250	79.	77.	0.	146.	0.
500	85.	83.	0.	149.	0.
1000	84.	83.	0.	133.	0.
2000	85.	83.	0.	131.	0.
4000	85.	82.	0.	131.	0.
8000	78.	77.	0.	124.	0.
16000	67.	69.	0.	114.	0.

CONFIGURATION 59
FINAL PRECHAMBER WALL FUEL FILM MOD D
POWER SETTING 55
READING NO. 1023

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	72.	0.	0.	0.
63	78.	77.	0.	0.	0.
80	67.	70.	0.	0.	0.
100	70.	70.	0.	0.	0.
125	75.	73.	0.	0.	0.
160	78.	77.	0.	0.	0.
200	74.	72.	0.	0.	0.
250	76.	74.	0.	0.	0.
315	80.	77.	0.	0.	0.
400	80.	77.	0.	0.	0.
500	81.	80.	0.	0.	0.
630	84.	82.	0.	0.	0.
800	83.	81.	0.	0.	0.
1000	81.	79.	0.	0.	0.
1250	81.	92.	0.	0.	0.
1600	82.	82.	0.	0.	0.
2000	81.	78.	0.	0.	0.
2500	80.	79.	0.	0.	0.
3150	82.	78.	0.	0.	0.
4000	80.	77.	0.	0.	0.
5000	81.	77.	0.	0.	0.
6300	76.	74.	0.	0.	0.
8000	73.	72.	0.	0.	0.
10000	70.	69.	0.	0.	0.
12500	66.	66.	0.	0.	0.
16000	61.	62.	0.	0.	0.
20000	57.	55.	0.	0.	0.
OCTAVE FREQ					
63	79.	79.	0.	0.	0.
125	80.	79.	0.	0.	0.
250	82.	80.	0.	0.	0.
500	87.	85.	0.	0.	0.
1000	87.	93.	0.	0.	0.
2000	86.	85.	0.	0.	0.
4000	86.	82.	0.	0.	0.
8000	78.	77.	0.	0.	0.
16000	68.	68.	0.	0.	0.

APPENDIX II

NOISE SPECTRA FOR FUEL INJECTION MODE TESTS

Sound pressure level (dB re 2×10^{-5} N/m^2) data are presented in this appendix. Microphone position 1 is the test cell microphone, and microphone position 2 is the inlet duct microphone. Burner operating points (power setting) are described in Table 12 and mass emissions are listed in Table 13. The data in this appendix are presented in the order of Table 13, and can be correlated to the data in the appendix using the reading number.

VG=.40 FUEL MODE=NONE FUEL=NONE
POWER SETTING 50
READING NO. 2114

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	68.	120.	0.	0.	0.
63	68.	119.	0.	0.	0.
80	67.	116.	0.	0.	0.
100	69.	112.	0.	0.	0.
125	68.	113.	0.	0.	0.
160	68.	110.	0.	0.	0.
200	68.	111.	0.	0.	0.
250	68.	113.	0.	0.	0.
315	68.	112.	0.	0.	0.
400	67.	114.	0.	0.	0.
500	68.	119.	0.	0.	0.
630	68.	117.	0.	0.	0.
800	68.	121.	0.	0.	0.
1000	68.	122.	0.	0.	0.
1250	68.	119.	0.	0.	0.
1600	67.	121.	0.	0.	0.
2000	67.	120.	0.	0.	0.
2500	67.	118.	0.	0.	0.
3150	67.	119.	0.	0.	0.
4000	68.	118.	0.	0.	0.
5000	68.	119.	0.	0.	0.
6300	67.	122.	0.	0.	0.
8000	67.	124.	0.	0.	0.
10000	67.	125.	0.	0.	0.
12500	68.	126.	0.	0.	0.
16000	67.	127.	0.	0.	0.
20000	68.	125.	0.	0.	0.
OCTAVE FREQ					
63	72.	123.	0.	0.	0.
125	73.	117.	0.	0.	0.
250	73.	117.	0.	0.	0.
500	72.	122.	0.	0.	0.
1000	73.	126.	0.	0.	0.
2000	72.	125.	0.	0.	0.
4000	72.	123.	0.	0.	0.
8000	72.	129.	0.	0.	0.
16000	72.	131.	0.	0.	0.

VG=.60 FUEL MODE=NONE FUEL=NONE
POWER SETTING 70
READING NO. 2140

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	127.	0.	0.	0.
63	67.	126.	0.	0.	0.
80	68.	123.	0.	0.	0.
100	68.	120.	0.	0.	0.
125	67.	120.	0.	0.	0.
160	68.	119.	0.	0.	0.
200	68.	118.	0.	0.	0.
250	68.	117.	0.	0.	0.
315	67.	116.	0.	0.	0.
400	67.	115.	0.	0.	0.
500	67.	117.	0.	0.	0.
630	68.	118.	0.	0.	0.
800	68.	116.	0.	0.	0.
1000	68.	117.	0.	0.	0.
1250	67.	119.	0.	0.	0.
1600	67.	117.	0.	0.	0.
2000	67.	117.	0.	0.	0.
2500	67.	118.	0.	0.	0.
3150	67.	120.	0.	0.	0.
4000	68.	123.	0.	0.	0.
5000	67.	123.	0.	0.	0.
6300	67.	123.	0.	0.	0.
8000	67.	120.	0.	0.	0.
10000	67.	122.	0.	0.	0.
12500	67.	118.	0.	0.	0.
16000	68.	115.	0.	0.	0.
20000	68.	110.	0.	0.	0.
OCTAVE FREQ					
63	73.	130.	0.	0.	0.
125	72.	124.	0.	0.	0.
250	72.	122.	0.	0.	0.
500	72.	122.	0.	0.	0.
1000	72.	122.	0.	0.	0.
2000	72.	122.	0.	0.	0.
4000	72.	127.	0.	0.	0.
8000	72.	127.	0.	0.	0.
16000	72.	120.	0.	0.	0.

VG=.80 FUEL MODE=NONE FUEL=NONE
POWER SETTING 80
READING NO. 2144

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	136.	0.	0.	0.
63	68.	136.	0.	0.	0.
80	68.	135.	0.	0.	0.
100	68.	130.	0.	0.	0.
125	67.	129.	0.	0.	0.
160	67.	129.	0.	0.	0.
200	67.	128.	0.	0.	0.
250	68.	127.	0.	0.	0.
315	68.	125.	0.	0.	0.
400	67.	124.	0.	0.	0.
500	68.	127.	0.	0.	0.
630	68.	128.	0.	0.	0.
800	67.	127.	0.	0.	0.
1000	68.	127.	0.	0.	0.
1250	67.	129.	0.	0.	0.
1600	68.	128.	0.	0.	0.
2000	67.	127.	0.	0.	0.
2500	68.	128.	0.	0.	0.
3150	67.	130.	0.	0.	0.
4000	68.	134.	0.	0.	0.
5000	67.	133.	0.	0.	0.
6300	68.	133.	0.	0.	0.
8000	67.	130.	0.	0.	0.
10000	68.	133.	0.	0.	0.
12500	68.	128.	0.	0.	0.
16000	68.	125.	0.	0.	0.
20000	68.	120.	0.	0.	0.
OCTAVE FREQ					
63	73.	140.	0.	0.	0.
125	72.	134.	0.	0.	0.
250	72.	132.	0.	0.	0.
500	72.	131.	0.	0.	0.
1000	72.	133.	0.	0.	0.
2000	72.	132.	0.	0.	0.
4000	72.	137.	0.	0.	0.
8000	72.	137.	0.	0.	0.
16000	73.	130.	0.	0.	0.

VG=.70 FUEL MODE=NONE FUEL=NONE
POWER SETTING 85
READING NO. 2101

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	127.	0.	0.	0.
63	68.	129.	0.	0.	0.
80	68.	124.	0.	0.	0.
100	68.	120.	0.	0.	0.
125	67.	120.	0.	0.	0.
160	68.	120.	0.	0.	0.
200	68.	120.	0.	0.	0.
250	68.	122.	0.	0.	0.
315	68.	123.	0.	0.	0.
400	67.	120.	0.	0.	0.
500	67.	123.	0.	0.	0.
630	68.	125.	0.	0.	0.
800	68.	125.	0.	0.	0.
1000	68.	124.	0.	0.	0.
1250	68.	124.	0.	0.	0.
1600	68.	126.	0.	0.	0.
2000	67.	128.	0.	0.	0.
2500	67.	126.	0.	0.	0.
3150	67.	127.	0.	0.	0.
4000	68.	128.	0.	0.	0.
5000	67.	128.	0.	0.	0.
6300	68.	132.	0.	0.	0.
8000	67.	133.	0.	0.	0.
10000	68.	134.	0.	0.	0.
12500	68.	136.	0.	0.	0.
16000	68.	136.	0.	0.	0.
20000	68.	135.	0.	0.	0.
OCTAVE FREQ					
63	73.	132.	0.	0.	0.
125	72.	125.	0.	0.	0.
250	73.	127.	0.	0.	0.
500	72.	128.	0.	0.	0.
1000	73.	129.	0.	0.	0.
2000	72.	132.	0.	0.	0.
4000	72.	132.	0.	0.	0.
8000	72.	138.	0.	0.	0.
16000	73.	140.	0.	0.	0.

VG=.40 FUEL MODE=WF FUEL=STD
POWER SETTING 50
READING NO. 2115

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	121.	0.	0.	0.
63	68.	118.	0.	0.	0.
80	67.	118.	0.	0.	0.
100	68.	115.	0.	0.	0.
125	67.	117.	0.	0.	0.
160	68.	118.	0.	0.	0.
200	68.	116.	0.	0.	0.
250	68.	116.	0.	0.	0.
315	68.	113.	0.	0.	0.
400	67.	113.	0.	0.	0.
500	67.	115.	0.	0.	0.
630	68.	116.	0.	0.	0.
800	68.	115.	0.	0.	0.
1000	68.	116.	0.	0.	0.
1250	67.	117.	0.	0.	0.
1600	67.	119.	0.	0.	0.
2000	67.	122.	0.	0.	0.
2500	67.	128.	0.	0.	0.
3150	67.	123.	0.	0.	0.
4000	68.	125.	0.	0.	0.
5000	68.	126.	0.	0.	0.
6300	67.	123.	0.	0.	0.
8000	67.	120.	0.	0.	0.
10000	67.	122.	0.	0.	0.
12500	67.	112.	0.	0.	0.
16000	68.	109.	0.	0.	0.
20000	68.	102.	0.	0.	0.
OCTAVE FREQ					
63	73.	124.	0.	0.	0.
125	72.	122.	0.	0.	0.
250	73.	120.	0.	0.	0.
500	72.	120.	0.	0.	0.
1000	72.	121.	0.	0.	0.
2000	72.	129.	0.	0.	0.
4000	72.	130.	0.	0.	0.
8000	72.	127.	0.	0.	0.
16000	72.	114.	0.	0.	0.

VG=.45   FUEL MODE=WF   FUEL=STD
POWER SETTING   50
READING NO.   2116

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	67.	120.	0.	0.	0.
63	68.	120.	0.	0.	0.
80	67.	116.	0.	0.	0.
100	68.	112.	0.	0.	0.
125	67.	111.	0.	0.	0.
160	68.	111.	0.	0.	0.
200	68.	112.	0.	0.	0.
250	68.	113.	0.	0.	0.
315	68.	113.	0.	0.	0.
400	67.	114.	0.	0.	0.
500	68.	118.	0.	0.	0.
630	68.	117.	0.	0.	0.
800	68.	121.	0.	0.	0.
1000	68.	120.	0.	0.	0.
1250	68.	118.	0.	0.	0.
1600	67.	121.	0.	0.	0.
2000	67.	120.	0.	0.	0.
2500	67.	118.	0.	0.	0.
3150	67.	119.	0.	0.	0.
4000	68.	118.	0.	0.	0.
5000	67.	119.	0.	0.	0.
6300	68.	122.	0.	0.	0.
8000	67.	124.	0.	0.	0.
10000	67.	125.	0.	0.	0.
12500	67.	126.	0.	0.	0.
16000	67.	127.	0.	0.	0.
20000	68.	126.	0.	0.	0.
OCTAVE FREQ					
63	72.	124.	0.	0.	0.
125	72.	116.	0.	0.	0.
250	73.	117.	0.	0.	0.
500	72.	121.	0.	0.	0.
1000	73.	125.	0.	0.	0.
2000	72.	125.	0.	0.	0.
4000	72.	123.	0.	0.	0.
8000	72.	129.	0.	0.	0.
16000	72.	131.	0.	0.	0.

VG=.50 FUEL MODE=WF FUEL=STD
POWER SETTING 50
READING NO. 2117

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	122.	0.	0.	0.
63	68.	120.	0.	0.	0.
80	68.	119.	0.	0.	0.
100	68.	116.	0.	0.	0.
125	68.	118.	0.	0.	0.
160	67.	119.	0.	0.	0.
200	68.	117.	0.	0.	0.
250	68.	116.	0.	0.	0.
315	68.	113.	0.	0.	0.
400	67.	113.	0.	0.	0.
500	67.	115.	0.	0.	0.
630	68.	116.	0.	0.	0.
800	68.	115.	0.	0.	0.
1000	68.	116.	0.	0.	0.
1250	68.	117.	0.	0.	0.
1600	67.	119.	0.	0.	0.
2000	67.	123.	0.	0.	0.
2500	67.	128.	0.	0.	0.
3150	67.	123.	0.	0.	0.
4000	68.	126.	0.	0.	0.
5000	67.	126.	0.	0.	0.
6300	67.	123.	0.	0.	0.
8000	67.	120.	0.	0.	0.
10000	68.	123.	0.	0.	0.
12500	68.	113.	0.	0.	0.
16000	68.	109.	0.	0.	0.
20000	68.	102.	0.	0.	0.
OCTAVE FREQ					
63	73.	125.	0.	0.	0.
125	72.	123.	0.	0.	0.
250	73.	120.	0.	0.	0.
500	72.	120.	0.	0.	0.
1000	73.	121.	0.	0.	0.
2000	72.	130.	0.	0.	0.
4000	72.	130.	0.	0.	0.
8000	72.	127.	0.	0.	0.
16000	73.	115.	0.	0.	0.

VG=.55 FUEL MODE=WF FUEL=STD
POWER SETTING 50
READING NO. 2118

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	119.	0.	0.	0.
63	67.	119.	0.	0.	0.
80	68.	116.	0.	0.	0.
100	67.	112.	0.	0.	0.
125	68.	112.	0.	0.	0.
160	67.	110.	0.	0.	0.
200	68.	112.	0.	0.	0.
250	67.	113.	0.	0.	0.
315	68.	113.	0.	0.	0.
400	67.	118.	0.	0.	0.
500	67.	115.	0.	0.	0.
630	68.	117.	0.	0.	0.
800	68.	119.	0.	0.	0.
1000	67.	118.	0.	0.	0.
1250	67.	119.	0.	0.	0.
1600	68.	120.	0.	0.	0.
2000	67.	119.	0.	0.	0.
2500	67.	118.	0.	0.	0.
3150	67.	119.	0.	0.	0.
4000	68.	119.	0.	0.	0.
5000	67.	118.	0.	0.	0.
6300	67.	122.	0.	0.	0.
8000	67.	124.	0.	0.	0.
10000	67.	124.	0.	0.	0.
12500	68.	126.	0.	0.	0.
16000	68.	127.	0.	0.	0.
20000	68.	125.	0.	0.	0.
OCTAVE FREQ					
63	73.	123.	0.	0.	0.
125	72.	116.	0.	0.	0.
250	72.	117.	0.	0.	0.
500	72.	122.	0.	0.	0.
1000	72.	123.	0.	0.	0.
2000	72.	124.	0.	0.	0.
4000	72.	123.	0.	0.	0.
8000	72.	128.	0.	0.	0.
16000	73.	131.	0.	0.	0.

VG=.60 FUEL MODE=WF FUEL=STD
POWER SETTING 50
READING NO. 2119

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	68.	121.	0.	0.	0.
63	68.	120.	0.	0.	0.
80	68.	117.	0.	0.	0.
100	68.	115.	0.	0.	0.
125	67.	116.	0.	0.	0.
160	67.	116.	0.	0.	0.
200	67.	115.	0.	0.	0.
250	67.	115.	0.	0.	0.
315	68.	113.	0.	0.	0.
400	67.	120.	0.	0.	0.
500	68.	116.	0.	0.	0.
630	68.	116.	0.	0.	0.
800	68.	115.	0.	0.	0.
1000	68.	115.	0.	0.	0.
1250	67.	117.	0.	0.	0.
1600	67.	118.	0.	0.	0.
2000	67.	120.	0.	0.	0.
2500	67.	126.	0.	0.	0.
3150	68.	124.	0.	0.	0.
4000	68.	127.	0.	0.	0.
5000	68.	128.	0.	0.	0.
6300	67.	124.	0.	0.	0.
8000	67.	120.	0.	0.	0.
10000	67.	123.	0.	0.	0.
12500	68.	113.	0.	0.	0.
16000	67.	108.	0.	0.	0.
20000	68.	101.	0.	0.	0.
OCTAVE FREQ					
63	73.	124.	0.	0.	0.
125	72.	120.	0.	0.	0.
250	72.	119.	0.	0.	0.
500	72.	123.	0.	0.	0.
1000	72.	121.	0.	0.	0.
2000	72.	127.	0.	0.	0.
4000	73.	131.	0.	0.	0.
8000	72.	127.	0.	0.	0.
16000	72.	114.	0.	0.	0.

VG=.40 FUEL MODE=AA FUEL=STD
POWER SETTING 50
READING NO. 2121

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	121.	0.	0.	0.
63	69.	119.	0.	0.	0.
80	68.	115.	0.	0.	0.
100	68.	112.	0.	0.	0.
125	68.	112.	0.	0.	0.
160	67.	111.	0.	0.	0.
200	68.	112.	0.	0.	0.
250	68.	114.	0.	0.	0.
315	67.	113.	0.	0.	0.
400	67.	120.	0.	0.	0.
500	67.	121.	0.	0.	0.
630	68.	117.	0.	0.	0.
800	68.	121.	0.	0.	0.
1000	68.	120.	0.	0.	0.
1250	68.	121.	0.	0.	0.
1600	68.	121.	0.	0.	0.
2000	67.	121.	0.	0.	0.
2500	67.	118.	0.	0.	0.
3150	68.	119.	0.	0.	0.
4000	68.	119.	0.	0.	0.
5000	67.	119.	0.	0.	0.
6300	67.	121.	0.	0.	0.
8000	68.	124.	0.	0.	0.
10000	68.	125.	0.	0.	0.
12500	68.	126.	0.	0.	0.
16000	67.	127.	0.	0.	0.
20000	68.	125.	0.	0.	0.
OCTAVE FREQ					
63	73.	124.	0.	0.	0.
125	72.	116.	0.	0.	0.
250	72.	118.	0.	0.	0.
500	72.	124.	0.	0.	0.
1000	73.	125.	0.	0.	0.
2000	72.	125.	0.	0.	0.
4000	72.	124.	0.	0.	0.
8000	72.	128.	0.	0.	0.
16000	72.	131.	0.	0.	0.

VG=.50 FUEL MODE=AA FUEL=STD
POWER SETTING 50
READING NO. 2122

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	120.	0.	0.	0.
63	68.	119.	0.	0.	0.
80	68.	116.	0.	0.	0.
100	68.	115.	0.	0.	0.
125	67.	117.	0.	0.	0.
160	68.	116.	0.	0.	0.
200	68.	115.	0.	0.	0.
250	68.	114.	0.	0.	0.
315	68.	113.	0.	0.	0.
400	67.	123.	0.	0.	0.
500	67.	124.	0.	0.	0.
630	68.	116.	0.	0.	0.
800	68.	115.	0.	0.	0.
1000	68.	115.	0.	0.	0.
1250	67.	117.	0.	0.	0.
1600	67.	118.	0.	0.	0.
2000	68.	120.	0.	0.	0.
2500	67.	127.	0.	0.	0.
3150	68.	126.	0.	0.	0.
4000	68.	127.	0.	0.	0.
5000	67.	128.	0.	0.	0.
6300	68.	124.	0.	0.	0.
8000	67.	120.	0.	0.	0.
10000	68.	122.	0.	0.	0.
12500	68.	113.	0.	0.	0.
16000	68.	109.	0.	0.	0.
20000	68.	101.	0.	0.	0.

OCTAVE FREQ	1	2	3	4	5
63	73.	123.	0.	0.	0.
125	72.	121.	0.	0.	0.
250	73.	119.	0.	0.	0.
500	72.	127.	0.	0.	0.
1000	72.	121.	0.	0.	0.
2000	72.	128.	0.	0.	0.
4000	72.	132.	0.	0.	0.
8000	72.	127.	0.	0.	0.
16000	73.	115.	0.	0.	0.

VG=.60 FUEL MODE=AA FUEL=STD
POWER SETTING 50
READING NO. 2123

MICROPHONE POSITION

1/3 OCT FREQ	1	2	3	4	5
50	68.	120.	0.	0.	0.
63	67.	119.	0.	0.	0.
80	67.	115.	0.	0.	0.
100	68.	112.	0.	0.	0.
125	67.	113.	0.	0.	0.
160	67.	111.	0.	0.	0.
200	68.	112.	0.	0.	0.
250	68.	113.	0.	0.	0.
315	68.	112.	0.	0.	0.
400	67.	115.	0.	0.	0.
500	68.	118.	0.	0.	0.
630	68.	117.	0.	0.	0.
800	68.	120.	0.	0.	0.
1000	68.	121.	0.	0.	0.
1250	67.	120.	0.	0.	0.
1600	67.	120.	0.	0.	0.
2000	67.	121.	0.	0.	0.
2500	67.	119.	0.	0.	0.
3150	67.	120.	0.	0.	0.
4000	68.	119.	0.	0.	0.
5000	67.	118.	0.	0.	0.
6300	67.	122.	0.	0.	0.
8000	67.	124.	0.	0.	0.
10000	68.	125.	0.	0.	0.
12500	68.	126.	0.	0.	0.
16000	67.	127.	0.	0.	0.
20000	68.	125.	0.	0.	0.

OCTAVE FREQ	1	2	3	4	5
63	72.	123.	0.	0.	0.
125	72.	117.	0.	0.	0.
250	73.	117.	0.	0.	0.
500	72.	122.	0.	0.	0.
1000	72.	125.	0.	0.	0.
2000	72.	125.	0.	0.	0.
4000	72.	124.	0.	0.	0.
8000	72.	129.	0.	0.	0.
16000	72.	131.	0.	0.	0.

VG=.70 FUEL MODE=AA FUEL=STD
POWER SETTING 50
READING NO. 2124

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	120.	0.	0.	0.
63	67.	118.	0.	0.	0.
80	68.	115.	0.	0.	0.
100	68.	115.	0.	0.	0.
125	67.	117.	0.	0.	0.
160	67.	116.	0.	0.	0.
200	68.	115.	0.	0.	0.
250	67.	115.	0.	0.	0.
315	68.	114.	0.	0.	0.
400	67.	122.	0.	0.	0.
500	67.	126.	0.	0.	0.
630	69.	116.	0.	0.	0.
800	67.	115.	0.	0.	0.
1000	68.	116.	0.	0.	0.
1250	67.	117.	0.	0.	0.
1600	68.	119.	0.	0.	0.
2000	67.	122.	0.	0.	0.
2500	67.	129.	0.	0.	0.
3150	67.	126.	0.	0.	0.
4000	68.	128.	0.	0.	0.
5000	67.	128.	0.	0.	0.
6300	67.	125.	0.	0.	0.
8000	67.	121.	0.	0.	0.
10000	67.	123.	0.	0.	0.
12500	68.	113.	0.	0.	0.
16000	67.	109.	0.	0.	0.
20000	68.	102.	0.	0.	0.
OCTAVE FREQ					
63	72.	123.	0.	0.	0.
125	72.	121.	0.	0.	0.
250	72.	119.	0.	0.	0.
500	73.	128.	0.	0.	0.
1000	72.	121.	0.	0.	0.
2000	72.	130.	0.	0.	0.
4000	72.	132.	0.	0.	0.
8000	72.	128.	0.	0.	0.
16000	72.	115.	0.	0.	0.

VG=.80 FUEL MODE=AA FUEL=STD
POWER SETTING 50
READING NO. 2125

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	120.	0.	0.	0.
63	68.	119.	0.	0.	0.
80	68.	116.	0.	0.	0.
100	68.	112.	0.	0.	0.
125	68.	112.	0.	0.	0.
160	68.	111.	0.	0.	0.
200	68.	112.	0.	0.	0.
250	67.	113.	0.	0.	0.
315	67.	11[illegible].	0.	0.	0.
400	67.	113.	0.	0.	0.
500	67.	117.	0.	0.	0.
630	68.	116.	0.	0.	0.
800	68.	118.	0.	0.	0.
1000	68.	120.	0.	0.	0.
1250	67.	121.	0.	0.	0.
1600	67.	119.	0.	0.	0.
2000	67.	120.	0.	0.	.
2500	67.	118.	0.	0.	0.
3150	68.	120.	0.	0.	0.
4000	68.	119.	0.	0.	0.
5000	67.	118.	0.	0.	0.
6300	67.	122.	0.	0.	0.
8000	67.	124.	0.	0.	0.
10000	68.	125.	0.	0.	0.
12500	67.	126.	0.	0.	0.
16000	68.	127.	0.	0.	0.
20000	68.	125.	0.	0.	0.
OCTAVE FREQ					
63	73.	123.	0.	0.	0.
125	73.	116.	0.	0.	0.
250	72.	117.	0.	0.	0.
500	72.	120.	0.	0.	0.
1000	72.	125.	0.	0.	0.
2000	72.	124.	0.	0.	0.
4000	72.	124.	0.	0.	0.
8000	72.	129.	0.	0.	0.
16000	72.	131.	0.	0.	0.

VG=.90 FUEL MODE=AA FUEL=STD
POWER SETTING 50
READING NO. 2126

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	119.	0.	0.	0.
63	68.	116.	0.	0.	0.
80	67.	115.	0.	0.	0.
100	59.	114.	0.	0.	0.
125	67.	116.	0.	0.	0.
160	67.	116.	0.	0.	0.
200	67.	115.	0.	0.	0.
250	68.	114.	0.	0.	0.
315	68.	113.	0.	0.	0.
400	67.	115.	0.	0.	0.
500	67.	122.	0.	0.	0.
630	68.	115.	0.	0.	0.
800	68.	115.	0.	0.	0.
1000	68.	115.	0.	0.	0.
1250	67.	118.	0.	0.	0.
1600	67.	118.	0.	0.	0.
2000	67.	121.	0.	0.	0.
2500	68.	131.	0.	0.	0.
3150	68.	126.	0.	0.	0.
4000	68.	127.	0.	0.	0.
5000	67.	128.	0.	0.	0.
6300	68.	126.	0.	0.	0.
8000	67.	121.	0.	0.	0.
10000	67.	123.	0.	0.	0.
12500	67.	114.	0.	0.	0.
16000	67.	109.	0.	0.	0.
20000	68.	102.	0.	0.	0.
OCTAVE FREQ					
63	73.	122.	0.	0.	0.
125	73.	120.	0.	0.	0.
250	72.	119.	0.	0.	0.
500	72.	123.	0.	0.	0.
1000	72.	121.	0.	0.	0.
2000	72.	132.	0.	0.	0.
4000	72.	132.	0.	0.	0.
8000	72.	129.	0.	0.	0.
16000	72.	115.	0.	0.	0.

VG=.40   FUEL MODE=WF   FUEL=STD
POWER SETTING   60
READING NO.   2127

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.	118.	0.	0.	0.
63	68.	115.	0.	0.	0.
80	69.	118.	0.	0.	0.
100	69.	121.	0.	0.	0.
125	68.	118.	0.	0.	0.
160	68.	119.	0.	0.	0.
200	67.	113.	0.	0.	0.
250	67.	112.	0.	0.	0.
315	67.	110.	0.	0.	0.
400	67.	110.	0.	0.	0.
500	67.	111.	0.	0.	0.
630	68.	116.	0.	0.	0.
800	68.	115.	0.	0.	0.
1000	68.	116.	0.	0.	0.
1250	68.	118.	0.	0.	0.
1600	67.	118.	0.	0.	0.
2000	67.	118.	0.	0.	0.
2500	67.	115.	0.	0.	0.
3150	67.	119.	0.	0.	0.
4000	68.	118.	0.	0.	0.
5000	67.	118.	0.	0.	0.
6300	68.	119.	0.	0.	0.
8000	67.	121.	0.	0.	0.
10000	68.	122.	0.	0.	0.
12500	67.	124.	0.	0.	0.
16000	67.	126.	0.	0.	0.
20000	68.	125.	0.	0.	0.
OCTAVE FREQ					
63	74.	122.	0.	0.	0.
125	73.	124.	0.	0.	0.
250	72.	117.	0.	0.	0.
500	72.	118.	0.	0.	0.
1000	73.	121.	0.	0.	0.
2000	72.	122.	0.	0.	0.
4000	72.	123.	0.	0.	0.
8000	72.	126.	0.	0.	0.
16000	72.	130.	0.	0.	0.

VG=.60 FUEL MODE=WF FUEL=STD
POWER SETTING 60
READING NO. 2128

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	119.	0.	0.	0.
63	68.	119.	0.	0.	0.
80	68.	116.	0.	0.	0.
100	68.	118.	0.	0.	0.
125	68.	118.	0.	0.	0.
160	68.	118.	0.	0.	0.
200	67.	118.	0.	0.	0.
250	68.	117.	0.	0.	0.
315	68.	116.	0.	0.	0.
400	67.	115.	0.	0.	0.
500	67.	115.	0.	0.	0.
630	68.	117.	0.	0.	0.
800	68.	117.	0.	0.	0.
1000	68.	117.	0.	0.	0.
1250	67.	119.	0.	0.	0.
1600	67.	118.	0.	0.	0.
2000	67.	118.	0.	0.	0.
2500	67.	119.	0.	0.	0.
3150	68.	120.	0.	0.	0.
4000	68.	124.	0.	0.	0.
5000	68.	123.	0.	0.	0.
6300	67.	123.	0.	0.	0.
8000	67.	120.	0.	0.	0.
10000	67.	122.	0.	0.	0.
12500	67.	118.	0.	0.	0.
16000	67.	115.	0.	0.	0.
20000	68.	110.	0.	0.	0.
OCTAVE FREQ					
63	73.	123.	0.	0.	0.
125	73.	123.	0.	0.	0.
250	72.	122.	0.	0.	0.
500	72.	121.	0.	0.	0.
1000	72.	123.	0.	0.	0.
2000	72.	123.	0.	0.	0.
4000	73.	127.	0.	0.	0.
8000	72.	127.	0.	0.	0.
16000	72.	120.	0.	0.	0.

VG=.70 FUEL MODE=WF FUEL=STD
POWER SETTING 60
READING NO. 2129

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	119.	0.	0.	0.
63	67.	117.	0.	0.	0.
80	67.	119.	0.	0.	0.
100	68.	120.	0.	0.	0.
125	68.	118.	0.	0.	0.
160	68.	118.	0.	0.	0.
200	67.	112.	0.	0.	0.
250	67.	112.	0.	0.	0.
315	67.	110.	0.	0.	0.
400	67.	109.	0.	0.	0.
500	67.	110.	0.	0.	0.
630	68.	114.	0.	0.	0.
800	68.	113.	0.	0.	0.
1000	68.	115.	0.	0.	0.
1250	67.	113.	0.	0.	0.
1600	67.	116.	0.	0.	0.
2000	67.	119.	0.	0.	0.
2500	67.	115.	0.	0.	0.
3150	67.	119.	0.	0.	0.
4000	68.	119.	0.	0.	0.
5000	67.	118.	0.	0.	0.
6300	68.	119.	0.	0.	0.
8000	67.	120.	0.	0.	0.
10000	67.	122.	0.	0.	0.
12500	68.	124.	0.	0.	0.
16000	67.	125.	0.	0.	0.
20000	68.	124.	0.	0.	0.
OCTAVE FREQ					
63	72.	123.	0.	0.	0.
125	73.	124.	0.	0.	0.
250	72.	116.	0.	0.	0.
500	72.	116.	0.	0.	0.
1000	72.	119.	0.	0.	0.
2000	72.	122.	0.	0.	0.
4000	72.	123.	0.	0.	0.
8000	72.	125.	0.	0.	0.
16000	72.	129.	0.	0.	0.

VG=.75 FUEL MODE=WF FUEL=STD
POWER SETTING 60
READING NO. 2130

		MICROPHONE POSITION			
1/3 OCT FREQ	1	2	3	4	5
50	68.	123.	0.	0.	0.
63	68.	123.	0.	0.	0.
80	67.	119.	0.	0.	0.
100	69.	118.	0.	0.	0.
125	68.	122.	0.	0.	0.
160	68.	123.	0.	0.	0.
200	68.	118.	0.	0.	0.
250	67.	116.	0.	0.	0.
315	68.	116.	0.	0.	0.
400	67.	115.	0.	0.	0.
500	67.	119.	0.	0.	0.
630	68.	120.	0.	0.	0.
800	67.	118.	0.	0.	0.
1000	67.	118.	0.	0.	0.
1250	68.	119.	0.	0.	0.
1600	67.	118.	0.	0.	0.
2000	68.	117.	0.	0.	0.
2500	67.	118.	0.	0.	0.
3150	67.	119.	0.	0.	0.
4000	68.	124.	0.	0.	0.
5000	67.	123.	0.	0.	0.
6300	68.	123.	0.	0.	0.
8000	67.	120.	0.	0.	0.
10000	68.	123.	0.	0.	0.
12500	67.	117.	0.	0.	0.
16000	67.	114.	0.	0.	0.
20000	68.	110.	0.	0.	0.
OCTAVE FREQ					
63	72.	127.	0.	0.	0.
125	73.	126.	0.	0.	0.
250	72.	122.	0.	0.	0.
500	72.	123.	0.	0.	0.
1000	72.	123.	0.	0.	0.
2000	72.	122.	0.	0.	0.
4000	72.	127.	0.	0.	0.
8000	72.	127.	0.	0.	0.
16000	72.	119.	0.	0.	0.

VG=.80 FUEL MODE=WF FUEL=STD
POWER SETTING 60
READING NO. 2131

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	120.	0.	0.	0.
63	67.	117.	0.	0.	0.
80	68.	119.	0.	0.	0.
100	68.	120.	0.	0.	0.
125	67.	119.	0.	0.	0.
160	68.	119.	0.	0.	0.
200	68.	113.	0.	0.	0.
250	68.	112.	0.	0.	0.
315	68.	110.	0.	0.	0.
400	67.	109.	0.	0.	0.
500	67.	109.	0.	0.	0.
630	69.	114.	0.	0.	0.
800	68.	113.	0.	0.	0.
1000	68.	114.	0.	0.	0.
1250	67.	113.	0.	0.	0.
1600	67.	116.	0.	0.	0.
2000	67.	119.	0.	0.	0.
2500	67.	115.	0.	0.	0.
3150	68.	119.	0.	0.	0.
4000	68.	119.	0.	0.	0.
5000	67.	118.	0.	0.	0.
6300	67.	119.	0.	0.	0.
8000	67.	120.	0.	0.	0.
10000	67.	121.	0.	0.	0.
12500	67.	124.	0.	0.	0.
16000	68.	125.	0.	0.	0.
20000	68.	124.	0.	0.	0.
OCTAVE FREQ					
63	73.	124.	0.	0.	0.
125	72.	124.	0.	0.	0.
250	73.	117.	0.	0.	0.
500	73.	116.	0.	0.	0.
1000	72.	118.	0.	0.	0.
2000	72.	122.	0.	0.	0.
4000	72.	123.	0.	0.	0.
8000	72.	125.	0.	0.	0.
16000	72.	129.	0.	0.	0.

VG=.80 FUEL MODE=AA FUEL=STD
POWER SETTING 60
READING NO. 2132

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	122.	0.	0.	0.
63	67.	121.	0.	0.	0.
80	68.	120.	0.	0.	0.
100	68.	119.	0.	0.	0.
125	68.	121.	0.	0.	0.
160	68.	125.	0.	0.	0.
200	68.	118.	0.	0.	0.
250	68.	117.	0.	0.	0.
315	68.	116.	0.	0.	0.
400	67.	116.	0.	0.	0.
500	67.	120.	0.	0.	0.
630	68.	120.	0.	0.	0.
800	68.	118.	0.	0.	0.
1000	67.	117.	0.	0.	0.
1250	67.	119.	0.	0.	0.
1600	67.	118.	0.	0.	0.
2000	67.	117.	0.	0.	0.
2500	67.	118.	0.	0.	0.
3150	67.	120.	0.	0.	0.
4000	68.	124.	0.	0.	0.
5000	67.	122.	0.	0.	0.
6300	68.	122.	0.	0.	0.
8000	67.	120.	0.	0.	0.
10000	68.	123.	0.	0.	0.
12500	68.	118.	0.	0.	0.
16000	67.	114.	0.	0.	0.
20000	68.	110.	0.	0.	0.
OCTAVE FREQ					
63	72.	126.	0.	0.	0.
125	73.	127.	0.	0.	0.
250	73.	122.	0.	0.	0.
500	72.	124.	0.	0.	0.
1000	72.	123.	0.	0	0.
2000	72.	122.	0.	0.	0.
4000	72.	127.	0.	0.	0.
8000	72.	127.	0.	0.	0.
16000	72.	120.	0.	0.	0.

VG=.40 FUEL MODE=AA FUEL=STD
POWER SETTING 60
READING NO. 2133

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	119.	0.	0.	0.
63	68.	117.	0.	0.	0.
80	67.	120.	0.	0.	0.
100	68.	119.	0.	0.	0.
125	68.	119.	0.	0.	0.
160	68.	118.	0.	0.	0.
200	68.	112.	0.	0.	0.
250	68.	112.	0.	0.	0.
315	68.	111.	0.	0.	0.
400	67.	108.	0.	0.	0.
500	67.	110.	0.	0.	0.
630	68.	114.	0.	0.	0.
800	68.	113.	0.	0.	0.
1000	68.	114.	0.	0.	0.
1250	67.	113.	0.	0.	0.
1600	67.	115.	0.	0.	0.
2000	67.	119.	0.	0.	0.
2500	67.	115.	0.	0.	0.
3150	68.	119.	0.	0.	0.
4000	68.	118.	0.	0.	0.
5000	67.	118.	0.	0.	0.
6300	68.	119.	0.	0.	0.
8000	68.	120.	0.	0.	0.
10000	68.	121.	0.	0.	0.
12500	67.	124.	0.	0.	0.
16000	67.	125.	0.	0.	0.
20000	68.	124.	0.	0.	0.
OCTAVE FREQ					
63	72.	124.	0.	0.	0.
125	73.	123.	0.	0.	0.
250	73.	116.	0.	0.	0.
500	72.	116.	0.	0.	0.
1000	72.	118.	0.	0.	0.
2000	72.	122.	0.	0.	0.
4000	72.	123.	0.	0.	0.
8000	73.	125.	0.	0.	0.
16000	72.	129.	0.	0.	0.

VG=.95 FUEL MODE=AA FUEL=STD
POWER SETTING 60
READING NO. 2134

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	123.	0.	0.	0.
63	67.	122.	0.	0.	0.
80	67.	118.	0.	0.	0.
100	68.	118.	0.	0.	0.
125	67.	121.	0.	0.	0.
160	68.	124.	0.	0.	0.
200	67.	118.	0.	0.	0.
250	68.	116.	0.	0.	0.
315	68.	116.	0.	0.	0.
400	67.	114.	0.	0.	0.
500	67.	119.	0.	0.	0.
630	68.	119.	0.	0.	0.
800	68.	117.	0.	0.	0.
1000	68.	117.	0.	0.	0.
1250	68.	119.	0.	0.	0.
1600	68.	117.	0.	0.	0.
2000	67.	117.	0.	0.	0.
2500	67.	118.	0.	0.	0.
3150	67.	119.	0.	0.	0.
4000	68.	124.	0.	0.	0.
5000	67.	123.	0.	0.	0.
6300	68.	122.	0.	0.	0.
8000	67.	119.	0.	0.	0.
10000	67.	122.	0.	0.	0.
12500	68.	117.	0.	0.	0.
16000	68.	114.	0.	0.	0.
20000	68.	109.	0.	0.	0.
OCTAVE FREQ					
63	72.	126.	0.	0.	0.
125	72.	126.	0.	0.	0.
250	72.	122.	0.	0.	0.
500	72.	123.	0.	0.	0.
1000	73.	123.	0.	0.	0.
2000	72.	122.	0.	0.	0.
4000	72.	127.	0.	0.	0.
8000	72.	126.	0.	0.	0.
16000	73.	119.	0.	0.	0.

VG=.60 FUEL MODE=WF FUEL=STD
POWER SETTING 70
READING NO. 2135

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	120.	0.	0.	0.
63	69.	118.	0.	0.	0.
80	67.	121.	0.	0.	0.
100	68.	120.	0.	0.	0.
125	68.	119.	0.	0.	0.
160	67.	118.	0.	0.	0.
200	67.	112.	0.	0.	0.
250	67.	112.	0.	0.	0.
315	68.	111.	0.	0.	0.
400	67.	109.	0.	0.	0.
500	67.	110.	0.	0.	0.
630	68.	114.	0.	0.	0.
800	68.	113.	0.	0.	0.
1000	68.	114.	0.	0.	0.
1250	67.	113.	0.	0.	0.
1600	68.	116.	0.	0.	0.
2000	67.	119.	0.	0.	0.
2500	67.	115.	0.	0.	0.
3150	67.	119.	0.	0.	0.
4000	68.	118.	0.	0.	0.
5000	67.	118.	0.	0.	0.
6300	68.	120.	0.	0.	0.
8000	67.	120.	0.	0.	0.
10000	68.	122.	0.	0.	0.
12500	68.	124.	0.	0.	0.
16000	68.	126.	0.	0.	0.
20000	68.	124.	0.	0.	0.
OCTAVE FREQ					
63	73.	125.	0.	0.	0.
125	72.	124.	0.	0.	0.
250	72.	116.	0.	0.	0.
500	72.	116.	0.	0.	0.
1000	72.	118.	0.	0.	0.
2000	72.	122.	0.	0.	0.
4000	72.	123.	0.	0.	0.
8000	72.	126.	0.	0.	0.
16000	73.	130.	0.	0.	0.

VG=.70 FUEL MODE=WF FUEL=STD
POWER SETTING 70
READING NO. 2136

		MICROPHONE POSITION			
1/3 OCT FREQ	1	2	3	4	5
50	69.	122.	0.	0.	0.
63	68.	121.	0.	0.	0.
80	68.	118.	0.	0.	0.
100	68.	118.	0.	0.	0.
125	68.	120.	0.	0.	0.
160	67.	124.	0.	0.	0.
200	68.	119.	0.	0.	0.
250	68.	116.	0.	0.	0.
315	68.	116.	0.	0.	0.
400	67.	115.	0.	0.	0.
500	67.	119.	0.	0.	0.
630	68.	119.	0.	0.	0.
800	68.	118.	0.	0.	0.
1000	68.	118.	0.	0.	0.
1250	68.	119.	0.	0.	0.
1600	67.	118.	0.	0.	0.
2000	67.	117.	0.	0.	0.
2500	67.	118.	0.	0.	0.
3150	67.	120.	0.	0.	0.
4000	68.	124.	0.	0.	0.
5000	67.	123.	0.	0.	0.
6300	68.	122.	0.	0.	0.
8000	67.	120.	0.	0.	0.
10000	67.	122.	0.	0.	0.
12500	68.	119.	0.	0.	0.
16000	68.	115.	0.	0.	0.
20000	68.	110.	0.	0.	0.
OCTAVE FREQ					
63	73.	125.	0.	0.	0.
125	72.	126.	0.	0.	0.
250	73.	122.	0.	0.	0.
500	72.	123.	0.	0.	0.
1000	73.	123.	0.	0.	0.
2000	72.	122.	0.	0.	0.
4000	72.	127.	0.	0.	0.
8000	72.	126.	0.	0.	0.
16000	73.	121.	0.	0.	0.

VG=.80 FUEL MODE=WF FUEL=STD
POWER SETTING 70
READING NO. 2137

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	121.	0.	0.	0.
63	67.	118.	0.	0.	0.
80	67.	119.	0.	0.	0.
100	68.	119.	0.	0.	0.
125	68.	119.	0.	0.	0.
160	67.	118.	0.	0.	0.
200	68.	112.	0.	0.	0.
250	68.	112.	0.	0.	0.
315	68.	111.	0.	0.	0.
400	67.	109.	0.	0.	0.
500	68.	110.	0.	0.	0.
630	68.	114.	0.	0.	0.
800	68.	113.	0.	0.	[illegible]
1000	67.	114.	0.	0.	[illegible]
1250	67.	114.	0.	0.	[illegible]
1600	68.	116.	0.	0.	[illegible]
2000	67.	119.	0.	0.	0.
2500	67.	115.	0.	0.	0.
3150	68.	119.	0.	0.	0.
4000	68.	119.	0.	0.	0.
5000	68.	118.	0.	0.	0.
6300	68.	119.	0.	0.	0.
8000	67.	120.	0.	0.	0.
10000	67.	122.	0.	0.	0.
12500	68.	124.	0.	0.	0.
16000	68.	126.	0.	0.	0.
20000	68.	125.	0.	0.	0.
OCTAVE FREQ					
63	73.	124.	0.	0.	0.
125	72.	123.	0.	0.	0.
250	73.	116.	0.	0.	0.
500	72.	116.	0.	0.	0.
1000	72.	118.	0.	0.	0.
2000	72.	122.	0.	0.	0.
4000	73.	123.	0.	0.	0.
8000	72.	125.	0.	0.	0.
16000	73.	130.	0.	0.	0.

VG=.90 FUEL MODE=WF FUEL=STD
POWER SETTING 70
READING NO. 2138

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	122.	0.	0.	0.
63	68.	123.	0.	0.	0.
80	67.	118.	0.	0.	0.
100	68.	118.	0.	0.	0.
125	67.	121.	0.	0.	0.
160	68.	125.	0.	0.	0.
200	68.	119.	0.	0.	0.
250	68.	117.	0.	0.	0.
315	68.	116.	0.	0.	0.
400	67.	115.	0.	0.	0.
500	67.	119.	0.	0.	0.
630	68.	119.	0.	0.	0.
800	68.	117.	0.	0.	0.
1000	67.	118.	0.	0.	0.
1250	68.	119.	0.	0.	0.
1600	68.	118.	0.	0.	0.
2000	67.	117.	0.	0.	0.
2500	67.	118.	0.	0.	0.
3150	67.	120.	0.	0.	0.
4000	68.	124.	0.	0.	0.
5000	67.	123.	0.	0.	0.
6300	67.	123.	0.	0.	0.
8000	67.	120.	0.	0.	0.
10000	68.	123.	0.	0.	0.
12500	68.	118.	0.	0.	0.
16000	67.	115.	0.	0.	0.
20000	68.	110.	0.	0.	0.
OCTAVE FREQ					
63	73.	126.	0.	0.	0.
125	72.	127.	0.	0.	0.
250	73.	122.	0.	0.	0.
500	72.	123.	0.	0.	0.
1000	72.	123.	0.	0.	0.
2000	72.	122.	0.	0.	0.
4000	72.	127.	0.	0.	0.
8000	72.	127.	0.	0.	0.
16000	72.	120.	0.	0.	0.

VG=.95 FUEL MODE=WF FUEL=STD
POWER SETTING 70
READING NO. 2139

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	119.	0.	0.	0.
63	68.	117.	0.	0.	0.
80	67.	120.	0.	0.	0.
100	68.	120.	0.	0.	0.
125	67.	120.	0.	0.	0.
160	67.	119.	0.	0.	0.
200	68.	113.	0.	0.	0.
250	67.	112.	0.	0.	0.
315	68.	111.	0.	0.	0.
400	66.	108.	0.	0.	0.
500	68.	110.	0.	0.	0.
630	68.	114.	0.	0.	0.
800	68.	114.	0.	0.	0.
1000	68.	115.	0.	0.	0.
1250	68.	114.	0.	0.	0.
1600	67.	116.	0.	0.	0.
2000	67.	119.	0.	0.	0.
2500	68.	115.	0.	0.	0.
3150	67.	119.	0.	0.	0.
4000	68.	119.	0.	0.	0.
5000	67.	119.	0.	0.	0.
6300	67.	119.	0.	0.	0.
8000	67.	121.	0.	0.	0.
10000	67.	122.	0.	0.	0.
12500	68.	125.	0.	0.	0.
16000	68.	126.	0.	0.	0.
20000	68.	125.	0.	0.	0.
OCTAVE FREQ					
63	73.	124.	0.	0.	0.
125	72.	124.	0.	0.	0.
250	72.	117.	0.	0.	0.
500	72.	116.	0.	0.	0.
1000	73.	119.	0.	0.	0.
2000	72.	122.	0.	0.	0.
4000	72.	124.	0.	0.	0.
8000	72.	126.	0.	0.	0.
16000	73.	130.	0.	0.	0.

VG=.60 FUEL MODE=AA FUEL=STD
POWER SETTING 70
READING NO. 2141

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	70.	120.	0.	0.	0.
63	68.	119.	0.	0.	0.
80	68.	120.	0.	0.	0.
100	68.	120.	0.	0.	0.
125	67.	120.	0.	0.	0.
160	68.	119.	0.	0.	0.
200	68.	113.	0.	0.	0.
250	67.	112.	0.	0.	0.
315	68.	111.	0.	0.	0.
400	67.	109.	0.	0.	0.
500	68.	109.	0.	0.	0.
630	68.	114.	0.	0.	0.
800	68.	114.	0.	0.	0.
1000	68.	115.	0.	0.	0.
1250	67.	113.	0.	0.	0.
1600	67.	116.	0.	0.	0.
2000	67.	119.	0.	0.	0.
2500	67.	115.	0.	0.	0.
3150	67.	120.	0.	0.	0.
4000	68.	119.	0.	0.	0.
5000	67.	119.	0.	0.	0.
6300	67.	119.	0.	0.	0.
8000	67.	121.	0.	0.	0.
10000	67.	123.	0.	0.	0.
12500	68.	125.	0.	0.	0.
16000	68.	126.	0.	0.	0.
20000	68.	124.	0.	0.	0.
OCTAVE FREQ					
63	74.	124.	0.	0.	0.
125	72.	124.	0.	0.	0.
250	72.	117.	0.	0.	0.
500	72.	116.	0.	0.	0.
1000	72.	119.	0.	0.	0.
2000	72.	122.	0.	0.	0.
4000	72.	124.	0.	0.	0.
8000	72.	126.	0.	0.	0.
16000	73.	130.	0.	0.	0.

VG=.95 FUEL MODE=AA FUEL=STD
POWER SETTING 70
READING NO. 2142

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	136.	0.	0.	0.
63	67.	136.	0.	0.	0.
80	67.	133.	0.	0.	0.
100	68.	129.	0.	0.	0.
125	68.	130.	0.	0.	0.
160	68.	129.	0.	0.	0.
200	67.	128.	0.	0.	0.
250	68.	127.	0.	0.	0.
315	68.	125.	0.	0.	0.
400	67.	124.	0.	0.	0.
500	68.	126.	0.	0.	0.
630	68.	128.	0.	0.	0.
800	68.	127.	0.	0.	0.
1000	68.	127.	0.	0.	0.
1250	68.	129.	0.	0.	0.
1600	67.	128.	0.	0.	0.
2000	68.	127.	0.	0.	0.
2500	67.	128.	0.	0.	0.
3150	67.	130.	0.	0.	0.
4000	68.	134.	0.	0.	0.
5000	67.	133.	0.	0.	0.
6300	67.	133.	0.	0.	0.
8000	67.	131.	0.	0.	0.
10000	67.	133.	0.	0.	0.
12500	68.	128.	0.	0.	0.
16000	68.	125.	0.	0.	0.
20000	68.	120.	0.	0.	0.
OCTAVE FREQ					
63	73.	140.	0.	0.	0.
125	73.	134.	0.	0.	0.
250	72.	132.	0.	0.	0.
500	72.	131.	0.	0.	0.
1000	73.	133.	0.	0.	0.
2000	72.	132.	0.	0.	0.
4000	72.	137.	0.	0.	0.
8000	72.	137.	0.	0.	0.
16000	73.	130.	0.	0.	0.

VG=1.05 FUEL MODE=AA FUEL=STD
POWER SETTING 70
READING NO. 2143

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	70.	129.	0.	0.	0.
63	68.	129.	0.	0.	0.
80	68.	130.	0.	0.	0.
100	68.	132.	0.	0.	0.
125	68.	130.	0.	0.	0.
160	67.	128.	0.	0.	0.
200	67.	123.	0.	0.	0.
250	68.	122.	0.	0.	0.
315	68.	121.	0.	0.	0.
400	67.	118.	0.	0.	0.
500	67.	120.	0.	0.	0.
630	68.	124.	0.	0.	0.
800	68.	124.	0.	0.	0.
1000	67.	124.	0.	0.	0.
1250	67.	123.	0.	0.	0.
1600	68.	126.	0.	0.	0.
2000	67.	129.	0.	0.	0.
2500	67.	125.	0.	0.	0.
3150	67.	129.	0.	0.	0.
4000	68.	129.	0.	0.	0.
5000	67.	128.	0.	0.	0.
6300	68.	130.	0.	0.	0.
8000	67.	131.	0.	0.	0.
10000	68.	133.	0.	0.	0.
12500	67.	135.	0.	0.	0.
16000	68.	136.	0.	0.	0.
20000	68.	135.	0.	0.	0.
OCTAVE FREQ					
63	74.	134.	0.	0.	0.
125	72.	135.	0.	0.	0.
250	72.	127.	0.	0.	0.
500	72.	126.	0.	0.	0.
1000	72.	128.	0.	0.	0.
2000	72.	132.	0.	0.	0.
4000	72.	133.	0.	0.	0.
8000	72.	136.	0.	0.	0.
16000	72.	140.	0.	0.	0.

VG=.80 FUEL MODE=WF FUEL=STD
POWER SETTING 80
READING NO. 2145

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	130.	0.	0.	0.
63	67.	128.	0.	0.	0.
80	67.	130.	0.	0.	0.
100	68.	130.	0.	0.	0.
125	67.	130.	0.	0.	0.
160	68.	129.	0.	0.	0.
200	68.	123.	0.	0.	0.
250	67.	122.	0.	0.	0.
315	68.	121.	0.	0.	0.
400	67.	118.	0.	0.	0.
500	67.	120.	0.	0.	0.
630	68.	124.	0.	0.	0.
800	68.	124.	0.	0.	0.
1000	68.	125.	0.	0.	0.
1250	68.	124.	0.	0.	0.
1600	67.	126.	0.	0.	0.
2000	67.	128.	0.	0.	0.
2500	67.	125.	0.	0.	0.
3150	68.	129.	0.	0.	0.
4000	68.	129.	0.	0.	0.
5000	67.	128.	0.	0.	0.
6300	67.	129.	0.	0.	0.
8000	67.	131.	0.	0.	0.
10000	67.	133.	0.	0.	0.
12500	68.	135.	0.	0.	0.
16000	67.	136.	0.	0.	0.
20000	68.	134.	0.	0.	0.
OCTAVE FREQ					
63	73.	134.	0.	0.	0.
125	72.	134.	0.	0.	0.
250	72.	127.	0.	0.	0.
500	72.	126.	0.	0.	0.
1000	73.	129.	0.	0.	0.
2000	72.	131.	0.	0.	0.
4000	72.	133.	0.	0.	0.
8000	72.	136.	0.	0.	0.
16000	72.	140.	0.	0.	0.

VG=.90 FUEL MODE=WF FUEL=STD
POWER SETTING 80
READING NO. 2146

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	68.	135.	0.	0.	0.
63	68.	136.	0.	0.	0.
80	67.	135.	0.	0.	0.
100	68.	130.	0.	0.	0.
125	67.	129.	0.	0.	0.
160	68.	129.	0.	0.	0.
200	68.	128.	0.	0.	0.
250	67.	126.	0.	0.	0.
315	68.	125.	0.	0.	0.
400	67.	125.	0.	0.	0.
500	67.	127.	0.	0.	0.
630	68.	128.	0.	0.	0.
800	68.	127.	0.	0.	0.
1000	67.	127.	0.	0.	0.
1250	68.	129.	0.	0.	0.
1600	67.	128.	0.	0.	0.
2000	67.	128.	0.	0.	0.
2500	67.	128.	0.	0.	0.
3150	67.	130.	0.	0.	0.
4000	68.	135.	0.	0.	0.
5000	67.	134.	0.	0.	0.
6300	67.	133.	0.	0.	0.
8000	67.	130.	0.	0.	0.
10000	69.	133.	0.	0.	0.
12500	62.	128.	0.	0.	0.
16000	67.	125.	0.	0.	0.
20000	68.	120.	0.	0.	0.
OCTAVE FREQ					
63	72.	140.	0.	0.	0.
125	72.	134.	0.	0.	0.
250	72.	131.	0.	0.	0.
500	72.	132.	0.	0.	0.
1000	72.	133.	0.	0.	0.
2000	72.	133.	0.	0.	0.
4000	72.	138.	0.	0.	0.
8000	72.	137.	0.	0.	0.
16000	72.	130.	0.	0.	0.

VG=1.00 FUEL MODE=WF FUEL=STD
POWER SETTING 80
READING NO. 2147

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	129.	0.	0.	0.
63	69.	127.	0.	0.	0.
80	68.	130.	0.	0.	0.
100	68.	130.	0.	0.	0.
125	67.	130.	0.	0.	0.
160	68.	130.	0.	0.	0.
200	68.	123.	0.	0.	0.
250	67.	122.	0.	0.	0.
315	68.	121.	0.	0.	0.
400	67.	119.	0.	0.	0.
500	67.	120.	0.	0.	0.
630	68.	125.	0.	0.	0.
800	68.	124.	0.	0.	0.
1000	68.	125.	0.	0.	0.
1250	68.	124.	0.	0.	0.
1600	67.	126.	0.	0.	0.
2000	67.	128.	0.	0.	0.
2500	67.	125.	0.	0.	0.
3150	67.	129.	0.	0.	0.
4000	68.	129.	0.	0.	0.
5000	67.	128.	0.	0.	0.
6300	67.	130.	0.	0.	0.
8000	67.	131.	0.	0.	0.
10000	67.	133.	0.	0.	0.
12500	68.	135.	0.	0.	0.
16000	68.	136.	0.	0.	0.
20000	68.	134.	0.	0.	0.
OCTAVE FREQ					
63	73.	134.	0.	0.	0.
125	72.	135.	0.	0.	0.
250	72.	127.	0.	0.	0.
500	72.	127.	0.	0.	0.
1000	73.	129.	0.	0.	0.
2000	72.	131.	0.	0.	0.
4000	72.	133.	0.	0.	0.
8000	72.	136.	0.	0.	0.
16000	73.	140.	0.	0.	0.

VG=1.10 FUEL MODE=WF FUEL=STD
POWER SETTING 80
READING NO. 2148

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	137.	0.	0.	0.
63	68.	135.	0.	0.	0.
80	68.	134.	0.	0.	0.
100	68.	131.	0.	0.	0.
125	68.	130.	0.	0.	0.
160	68.	130.	0.	0.	0.
200	68.	128.	0.	0.	0.
250	67.	128.	0.	0.	0.
315	68.	127.	0.	0.	0.
400	67.	126.	0.	0.	0.
500	67.	127.	0.	0.	0.
630	69.	128.	0.	0.	0.
800	68.	126.	0.	0.	0.
1000	68.	127.	0.	0.	0.
1250	67.	129.	0.	0.	0.
1600	67.	128.	0.	0.	0.
2000	67.	127.	0.	0.	0.
2500	67.	128.	0.	0.	0.
3150	67.	130.	0.	0.	0.
4000	68.	135.	0.	0.	0.
5000	67.	134.	0.	0.	0.
6300	68.	133.	0.	0.	0.
8000	67.	130.	0.	0.	0.
10000	67.	134.	0.	0.	0.
12500	68.	129.	0.	0.	0.
16000	68.	125.	0.	0.	0.
20000	68.	120.	0.	0.	0.

OCTAVE FREQ					
63	73.	140.	0.	0.	0.
125	73.	135.	0.	0.	0.
250	72.	132.	0.	0.	0.
500	73.	132.	0.	0.	0.
1000	72.	132.	0.	0.	0.
2000	72.	132.	0.	0.	0.
4000	72.	138.	0.	0.	0.
8000	72.	137.	0.	0.	0.
16000	73.	131.	0.	0.	0.

VG=.800 FUEL MODE=AA FUEL=STD
POWER SETTING 80
READING NO. 2149

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	129.	0.	0.	0.
63	67.	128.	0.	0.	0.
80	68.	129.	0.	0.	0.
100	67.	130.	0.	0.	0.
125	67.	131.	0.	0.	0.
160	68.	130.	0.	0.	0.
200	68.	123.	0.	0.	0.
250	67.	122.	0.	0.	0.
315	68.	120.	0.	0.	0.
400	67.	119.	0.	0.	0.
500	67.	120.	0.	0.	0.
630	68.	125.	0.	0.	0.
800	68.	124.	0.	0.	0.
1000	68.	125.	0.	0.	0.
1250	67.	123.	0.	0.	0.
1600	67.	126.	0.	0.	0.
2000	67.	129.	0.	0.	0.
2500	67.	125.	0.	0.	0.
3150	67.	129.	0.	0.	0.
4000	68.	129.	0.	0.	0.
5000	67.	128.	0.	0.	0.
6300	67.	130.	0.	0.	0.
8000	67.	131.	0.	0.	0.
10000	67.	133.	0.	0.	0.
12500	68.	135.	0.	0.	0.
16000	67.	136.	0.	0.	0.
20000	68.	134.	0.	0.	0.

OCTAVE FREQ	1	2	3	4	5
63	73.	133.	0.	0.	0.
125	72.	135.	0.	0.	0.
250	72.	127.	0.	0.	0.
500	72.	127.	0.	0.	0.
1000	72.	129.	0.	0.	0.
2000	72.	132.	0.	0.	0.
4000	72.	133.	0.	0.	0.
8000	72.	136.	0.	0.	0.
16000	72.	140.	0.	0.	0.

VG=1.00 FUEL MODE=AA FUEL=STD
POWER SETTING 80
READING NO. 2150

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	136.	0.	0.	0.
63	68.	136.	0.	0.	0.
80	67.	134.	0.	0.	0.
100	68.	130.	0.	0.	0.
125	67.	130.	0.	0.	0.
160	68.	130.	0.	0.	0.
200	68.	128.	0.	0.	0.
250	68.	127.	0.	0.	0.
315	68.	125.	0.	0.	0.
400	67.	125.	0.	0.	0.
500	67.	126.	0.	0.	0.
630	68.	127.	0.	0.	0.
800	68.	127.	0.	0.	0.
1000	68.	127.	0.	0.	0.
1250	68.	129.	0.	0.	0.
1600	67.	128.	0.	0.	0.
2000	67.	128.	0.	0.	0.
2500	67.	129.	0.	0.	0.
3150	67.	131.	0.	0.	0.
4000	68.	136.	0.	0.	0.
5000	67.	134.	0.	0.	0.
6300	68.	134.	0.	0.	0.
8000	67.	131.	0.	0.	0.
10000	68.	133.	0.	0.	0.
12500	68.	129.	0.	0.	0.
16000	68.	125.	0.	0.	0.
20000	68.	120.	0.	0.	0.
OCTAVE FREQ					
63	72.	140.	0.	0.	0.
125	72.	135.	0.	0.	0.
250	73.	132.	0.	0.	0.
500	72.	131.	0.	0.	0.
1000	73.	133.	0.	0.	0.
2000	72.	133.	0.	0.	0.
4000	72.	139.	0.	0.	0.
8000	72.	138.	0.	0.	0.
16000	73.	131.	0.	0.	0.

VG=1.20 FUEL MODE=AA FUEL=STD
POWER SETTING 80
READING NO. 2151

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	129.	0.	0.	0.
63	68.	128.	0.	0.	0.
80	68.	130.	0.	0.	0.
100	69.	130.	0.	0.	0.
125	67.	129.	0.	0.	0.
160	67.	128.	0.	0.	0.
200	68.	122.	0.	0.	0.
250	67.	121.	0.	0.	0.
315	68.	121.	0.	0.	0.
400	67.	118.	0.	0.	0.
500	67.	120.	0.	0.	0.
630	68.	124.	0.	0.	0.
800	68.	124.	0.	0.	0.
1000	68.	124.	0.	0.	0.
1250	68.	123.	0.	0.	0.
1600	67.	125.	0.	0.	0.
2000	67.	127.	0.	0.	0.
2500	67.	124.	0.	0.	0.
3150	67.	128.	0.	0.	0.
4000	68.	128.	0.	0.	0.
5000	67.	127.	0.	0.	0.
6300	68.	129.	0.	0.	0.
8000	68.	129.	0.	0.	0.
10000	67.	131.	0.	0.	0.
12500	68.	132.	0.	0.	0.
16000	67.	133.	0.	0.	0.
20000	68.	132.	0.	0.	0.
OCTAVE FREQ					
63	73.	134.	0.	0.	0.
125	72.	134.	0.	0.	0.
250	72.	126.	0.	0.	0.
500	72.	126.	0.	0.	0.
1000	73.	128.	0.	0.	0.
2000	72.	130.	0.	0.	0.
4000	72.	132.	0.	0.	0.
8000	72.	135.	0.	0.	0.
16000	72.	137.	0.	0.	0.

VG=.95 FUEL MODE=WT FUEL=STD
POWER SETTING 85
READING NO. 2102

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	128.	0.	0.	0.
63	68.	125.	0.	0.	0.
80	68.	123.	0.	0.	0.
100	9.	123.	0.	0.	0.
125	3.	125.	0.	0.	0.
160	68.	124.	0.	0.	0.
200	68.	125.	0.	0.	0.
250	68.	125.	0.	0.	0.
315	68.	123.	0.	0.	0.
400	67.	122.	0.	0.	0.
500	67.	122.	0.	0.	0.
630	68.	126.	0.	0.	0.
800	68.	125.	0.	0.	0.
1000	68.	125.	0.	0.	0.
1250	68.	126.	0.	0.	0.
1600	67.	128.	0.	0.	0.
2000	67.	129.	0.	0.	0.
2500	67.	134.	0.	0.	0.
3150	68.	130.	0.	0.	0.
4000	68.	133.	0.	0.	0.
5000	67.	134.	0.	0.	0.
6300	67.	132.	0.	0.	0.
8000	67.	129.	0.	0.	0.
10000	67.	133.	0.	0.	0.
12500	68.	122.	0.	0.	0.
16000	68.	119.	0.	0.	0.
20000	68.	111.	0.	0.	0.

OCTAVE FREQ					
63	73.	131.	0.	0.	0.
125	73.	129.	0.	0.	0.
250	73.	129.	0.	0.	0.
500	72.	129.	0.	0.	0.
1000	73.	130.	0.	0.	0.
2000	72.	136.	0.	0.	0.
4000	72.	137.	0.	0.	0.
8000	72.	136.	0.	0.	0.
16000	73.	124.	0.	0.	0.

VG=1.00 FUEL MODE=WF FUEL=STD
POWER SETTING 85
READING NO. 2103

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	130.	0.	0.	0.
63	68.	128.	0.	0.	0.
80	67.	127.	0.	0.	0.
100	67.	120.	0.	0.	0.
125	68.	122.	0.	0.	0.
160	67.	120.	0.	0.	0.
200	67.	122.	0.	0.	0.
250	67.	124.	0.	0.	0.
315	68.	122.	0.	0.	0.
400	67.	122.	0.	0.	0.
500	67.	127.	0.	0.	0.
630	68.	127.	0.	0.	0.
800	68.	128.	0.	0.	0.
1000	68.	129.	0.	0.	0.
1250	68.	131.	0.	0.	0.
1600	67.	132.	0.	0.	0.
2000	67.	129.	0.	0.	0.
2500	67.	127.	0.	0.	0.
3150	68.	129.	0.	0.	0.
4000	68.	128.	0.	0.	0.
5000	67.	129.	0.	0.	0.
6300	68.	132.	0.	0.	0.
8000	67.	134.	0.	0.	0.
10000	67.	135.	0.	0.	0.
12500	67.	137.	0.	0.	0.
16000	67.	137.	0.	0.	0.
20000	68.	136.	0.	0.	0.
OCTAVE FREQ					
63	73.	133.	0.	0.	0.
125	72.	126.	0.	0.	0.
250	72.	128.	0.	0.	0.
500	72.	131.	0.	0.	0.
1000	73.	134.	0.	0.	0.
2000	72.	135.	0.	0.	0.
4000	72.	133.	0.	0.	0.
8000	72.	139.	0.	0.	0.
16000	72.	141.	0.	0.	0.

VG=1.05 FUEL MODE=WF FUEL=STD
POWER SETTING 85
READING NO. 2104

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	129.	0.	0.	0.
63	67.	127.	0.	0.	0.
80	67.	125.	0.	0.	0.
100	68.	124.	0.	0.	0.
125	68.	124.	0.	0.	0.
160	68.	125.	0.	0.	0.
200	68.	125.	0.	0.	0.
250	67.	125.	0.	0.	0.
315	67.	123.	0.	0.	0.
400	68.	121.	0.	0.	0.
500	67.	127.	0.	0.	0.
630	68.	126.	0.	0.	0.
800	68.	124.	0.	0.	0.
1000	68.	126.	0.	0.	0.
1250	68.	126.	0.	0.	0.
1600	67.	128.	0.	0.	0.
2000	67.	130.	0.	0.	0.
2500	67.	137.	0.	0.	0.
3150	67.	133.	0.	0.	0.
4000	68.	136.	0.	0.	0.
5000	67.	135.	0.	0.	0.
6300	67.	133.	0.	0.	0.
8000	67.	129.	0.	0.	0.
10000	67.	133.	0.	0.	0.
12500	67.	123.	0.	0.	0.
16000	68.	119.	0.	0.	0.
20000	68.	112.	0.	0.	0.
OCTAVE FREQ					
63	73.	132.	0.	0.	0.
125	73.	129.	0.	0.	0.
250	72.	129.	0.	0.	0.
500	72.	130.	0.	0.	0.
1000	73.	130.	0.	0.	0.
2000	72.	138.	0.	0.	0.
4000	72.	140.	0.	0.	0.
8000	72.	137.	0.	0.	0.
16000	72.	125.	0.	0.	0.

VG=1.10 FUEL MODE=NONE FUEL=NONE
POWER SETTING 85
READING NO. 2105

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	131.	0.	0.	0.
63	68.	129.	0.	0.	0.
80	68.	126.	0.	0.	0.
100	68.	121.	0.	0.	0.
125	68.	121.	0.	0.	0.
160	67.	120.	0.	0.	0.
200	68.	121.	0.	0.	0.
250	67.	123.	0.	0.	0.
315	68.	123.	0.	0.	0.
400	67.	121.	0.	0.	0.
500	67.	130.	0.	0.	0.
630	68.	128.	0.	0.	0.
800	68.	131.	0.	0.	0.
1000	68.	130.	0.	0.	0.
1250	67.	130.	0.	0.	0.
1600	67.	131.	0.	0.	0.
2000	67.	129.	0.	0.	0.
2500	67.	128.	0.	0.	0.
3150	67.	129.	0.	0.	0.
4000	68.	129.	0.	0.	0.
5000	68.	129.	0.	0.	0.
6300	67.	132.	0.	0.	0.
8000	67.	134.	0.	0.	0.
10000	67.	135.	0.	0.	0.
12500	68.	137.	0.	0.	0.
16000	6[illegible].	137.	0.	0.	0.
20000	68.	136.	0.	0.	0.
OCTAVE FREQ					
63	73.	134.	0.	0.	0.
125	72.	125.	0.	0.	0.
250	72.	127.	0.	0.	0.
500	72.	132.	0.	0.	0.
1000	72.	135.	0.	0.	0.
2000	72.	134.	0.	0.	0.
4000	72.	134.	0.	0.	0.
8000	72.	139.	0.	0.	0.
16000	73.	141.	0.	0.	0.

VG=1.15 FUEL MODE=NONE FUEL=NONE
POWER SETTING 85
READING NO. 2106

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	129.	0.	0.	0.
63	67.	126.	0.	0.	0.
80	68.	124.	0.	0.	0.
100	68.	124.	0.	0.	0.
125	67.	124.	0.	0.	0.
160	68.	124.	0.	0.	0.
200	67.	125.	0.	0.	0.
250	68.	125.	0.	0.	0.
315	67.	123.	0.	0.	0.
400	67.	121.	0.	0.	0.
500	67.	126.	0.	0.	0.
630	68.	126.	0.	0.	0.
800	68.	125.	0.	0.	0.
1000	67.	126.	0.	0.	0.
1250	67.	127.	0.	0.	0.
1600	67.	128.	0.	0.	0.
2000	67.	131.	0.	0.	0.
2500	67.	138.	0.	0.	0.
3150	68.	134.	0.	0.	0.
4000	68.	136.	0.	0.	0.
5000	67.	136.	0.	0.	0.
6300	67.	133.	0.	0.	0.
8000	67.	129.	0.	0.	0.
10000	68.	133.	0.	0.	0.
12500	68.	123.	0.	0.	0.
16000	68.	120.	0.	0.	0.
20000	68.	111.	0.	0.	0.
OCTAVE FREQ					
63	72.	132.	0.	0.	0.
125	72.	129.	0.	0.	0.
250	72.	129.	0.	0.	0.
500	72.	130.	0.	0.	0.
1000	72.	131.	0.	0.	0.
2000	72.	139.	0.	0.	0.
4000	72.	140.	0.	0.	0.
8000	72.	137.	0.	0.	0.
16000	73.	125.	0.	0.	0.

VG=1.20 FUEL MODE=NONE FUEL=NONE
POWER SETTING 85
READING NO. 2107

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	129.	0.	0.	0.
63	67.	129.	0.	0.	0.
80	67.	125.	0.	0.	0.
100	68.	120.	0.	0.	0.
125	68.	122.	0.	0.	0.
160	67.	120.	0.	0.	0.
200	68.	121.	0.	0.	0.
250	68.	123.	0.	0.	0.
315	68.	123.	0.	0.	0.
400	67.	122.	0.	0.	0.
500	67.	128.	0.	0.	0.
630	68.	127.	0.	0.	0.
800	68.	132.	0.	0.	0.
1000	68.	130.	0.	0.	0.
1250	67.	130.	0.	0.	0.
1600	68.	132.	0.	0.	0.
2000	67.	130.	0.	0.	0.
2500	67.	129.	0.	0.	0.
3150	67.	130.	0.	0.	0.
4000	68.	128.	0.	0.	0.
5000	67.	128.	0.	0.	0.
6300	67.	132.	0.	0.	0.
8000	68.	134.	0.	0.	0.
10000	67.	135.	0.	0.	0.
12500	67.	136.	0.	0.	0.
16000	68.	137.	0.	0.	0.
20000	68.	136.	0.	0.	0.
OCTAVE FREQ					
63	73.	133.	0.	0.	0.
125	72.	126.	0.	0.	0.
250	73.	127.	0.	0.	0.
500	72.	131.	0.	0.	0.
1000	72.	136.	0.	0.	0.
2000	72.	135.	0.	0.	0.
4000	72.	134.	0.	0.	0.
8000	72.	139.	0.	0.	0.
16000	72.	141.	0.	0.	0.

VG=1.25 FUEL MODE=NONE FUEL=NONE
POWER SETTING 85
READING NO. 2108

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	68.	127.	0.	0.	0.
63	67.	126.	0.	0.	0.
80	68.	125.	0.	0.	0.
100	68.	124.	0.	0.	0.
125	67.	125.	0.	0.	0.
160	67.	125.	0.	0.	0.
200	67.	125.	0.	0.	0.
250	68.	125.	0.	0.	0.
315	67.	123.	0.	0.	0.
400	67.	122.	0.	0.	0.
500	68.	127.	0.	0.	0.
630	68.	125.	0.	0.	0.
800	68.	125.	0.	0.	0.
1000	68.	126.	0.	0.	0.
1250	68.	126.	0.	0.	0.
1600	67.	129.	0.	0.	0.
2000	67.	130.	0.	0.	0.
2500	67.	138.	0.	0.	0.
3150	68.	133.	0.	0.	0.
4000	68.	135.	0.	0.	0.
5000	67.	135.	0.	0.	0.
6300	67.	132.	0.	0.	0.
8000	67.	128.	0.	0.	0.
10000	68.	133.	0.	0.	0.
12500	67.	123.	0.	0.	0.
16000	67.	121.	0.	0.	0.
20000	68.	111.	0.	0.	0.
OCTAVE FREQ					
63	72.	131.	0.	0.	0.
125	72.	129.	0.	0.	0.
250	72.	129.	0.	0.	0.
500	72.	130.	0.	0.	0.
1000	73.	130.	0.	0.	0.
2000	72.	139.	0.	0.	0.
4000	72.	139.	0.	0.	0.
8000	72.	136.	0.	0.	0.
16000	72.	125.	0.	0.	0.

VG=.95   FUEL MODE=AA   FUEL=STD
POWER SETTING   85
READING NO.   2109

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	129.	0.	0.	0.
63	68.	129.	0.	0.	0.
80	67.	126.	0.	0.	0.
100	67.	120.	0.	0.	0.
125	67.	121.	0.	0.	0.
160	68.	120.	0.	0.	0.
200	68.	121.	0.	0.	0.
250	67.	123.	0.	0.	0.
315	68.	123.	0.	0.	0.
400	67.	122.	0.	0.	0.
500	67.	130.	0.	0.	0.
630	68.	127.	0.	0.	0.
800	68.	133.	0.	0.	0.
1000	68.	130.	0.	0.	0.
1250	67.	130.	0.	0.	0.
1600	67.	131.	0.	0.	0.
2000	67.	130.	0.	0.	0.
2500	67.	128.	0.	0.	0.
3150	68.	129.	0.	0.	0.
4000	68.	128.	0.	0.	0.
5000	67.	129.	0.	0.	0.
6300	68.	133.	0.	0.	0.
8000	68.	134.	0.	0.	0.
10000	68.	135.	0.	0.	0.
12500	68.	137.	0.	0.	0.
16000	68.	138.	0.	0.	0.
20000	68.	136.	0.	0.	0.
OCTAVE FREQ					
63	73.	133.	0.	0.	0.
125	72.	125.	0.	0.	0.
250	72.	127.	0.	0.	0.
500	72.	132.	0.	0.	0.
1000	72.	136.	0.	0.	0.
2000	72.	135.	0.	0.	0.
4000	72.	133.	0.	0.	0.
8000	73.	139.	0.	0.	0.
16000	73.	142.	0.	0.	0.

VG=1.10 FUEL MODE=AA FUEL=STD
POWER SETTING 85
READING NO. 2110

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	67.	129.	0.	0.	0.
63	67.	128.	0.	0.	0.
80	67.	125.	0.	0.	0.
100	68.	124.	0.	0.	0.
125	68.	125.	0.	0.	0.
160	67.	125.	0.	0.	0.
200	68.	126.	0.	0.	0.
250	68.	124.	0.	0.	0.
315	68.	123.	0.	0.	0.
400	67.	122.	0.	0.	0.
500	67.	127.	0.	0.	0.
630	68.	126.	0.	0.	0.
800	68.	125.	0.	0.	0.
1000	67.	126.	0.	0.	0.
1250	68.	127.	0.	0.	0.
1600	67.	128.	0.	0.	0.
2000	67.	130.	0.	0.	0.
2500	68.	138.	0.	0.	0.
3150	67.	133.	0.	0.	0.
4000	68.	135.	0.	0.	0.
5000	68.	135.	0.	0.	0.
6300	68.	133.	0.	0.	0.
8000	67.	129.	0.	0.	0.
10000	68.	132.	0.	0.	0.
12500	68.	123.	0.	0.	0.
16000	68.	118.	0.	0.	0.
20000	68.	112.	0.	0.	0.

OCTAVE FREQ					
63	72.	132.	0.	0.	0.
125	72.	129.	0.	0.	0.
250	73.	129.	0.	0.	0.
500	72.	130.	0.	0.	0.
1000	72.	131.	0.	0.	0.
2000	72.	139.	0.	0.	0.
4000	72.	139.	0.	0.	0.
8000	72.	136.	0.	0.	0.
16000	73.	124.	0.	0.	0.

VG=1.25 FUEL MODE=AA FUEL=STD
POWER SETTING 85
READING NO. 2111

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	130.	0.	0.	0.
63	68.	129.	0.	0.	0.
80	68.	126.	0.	0.	0.
100	68.	121.	0.	0.	0.
125	68.	122.	0.	0.	0.
160	68.	120.	0.	0.	0.
200	68.	121.	0.	0.	0.
250	67.	123.	0.	0.	0.
315	67.	123.	0.	0.	0.
400	68.	123.	0.	0.	0.
500	67.	130.	0.	0.	0.
630	69.	127.	0.	0.	0.
800	68.	133.	0.	0.	0.
1000	68.	132.	0.	0.	0.
1250	67.	130.	0.	0.	0.
1600	68.	132.	0.	0.	0.
2000	67.	131.	0.	0.	0.
2500	67.	128.	0.	0.	0.
3150	67.	129.	0.	0.	0.
4000	68.	128.	0.	0.	0.
5000	67.	128.	0.	0.	0.
6300	68.	132.	0.	0.	0.
8000	67.	134.	0.	0.	0.
10000	67.	135.	0.	0.	0.
12500	67.	136.	0.	0.	0.
16000	67.	137.	0.	0.	0.
20000	68.	135.	0.	0.	0.
OCTAVE FREQ					
63	73.	133.	0.	0.	0.
125	73.	126.	0.	0.	0.
250	72.	127.	0.	0.	0.
500	73.	132.	0.	0.	0.
1000	72.	137.	0.	0.	0.
2000	72.	135.	0.	0.	0.
4000	72.	133.	0.	0.	0.
8000	72.	139.	0.	0.	0.
16000	72.	141.	0.	0.	0.

VG=1.40 FUEL MODE=AA FUEL=STD
POWER SETTING 85
READING NO. 2112

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	130.	0.	0.	0.
63	67.	129.	0.	0.	0.
80	68.	127.	0.	0.	0.
100	68.	124.	0.	0.	0.
125	68.	126.	0.	0.	0.
160	68.	126.	0.	0.	0.
200	68.	126.	0.	0.	0.
250	67.	125.	0.	0.	0.
315	67.	123.	0.	0.	0.
400	67.	122.	0.	0.	0.
500	67.	125.	0.	0.	0.
630	68.	126.	0.	0.	0.
800	68.	125.	0.	0.	0.
1000	68.	126.	0.	0.	0.
1250	67.	127.	0.	0.	0.
1600	67.	129.	0.	0.	0.
2000	67.	131.	0.	0.	0.
2500	67.	138.	0.	0.	0.
3150	67.	133.	0.	0.	0.
4000	68.	135.	0.	0.	0.
5000	67.	136.	0.	0.	0.
6300	68.	132.	0.	0.	0.
8000	67.	129.	0.	0.	0.
10000	67.	133.	0.	0.	0.
12500	68.	123.	0.	0.	0.
16000	68.	118.	0.	0.	0.
20000	68.	111.	0.	0.	0.
OCTAVE FREQ					
63	73.	134.	0.	0.	0.
125	73.	130.	0.	0.	0.
250	72.	130.	0.	0.	0.
500	72.	129.	0.	0.	0.
1000	72.	131.	0.	0.	0.
2000	72.	139.	0.	0.	0.
4000	72.	140.	0.	0.	0.
8000	72.	136.	0.	0.	0.
16000	73.	124.	0.	0.	0.

VG=.70 FUEL MODE=WF FUEL=UL
POWER SETTING 70
READING NO. 2152

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	123.	0.	0.	0.
63	68.	123.	0.	0.	0.
80	68.	119.	0.	0.	0.
100	67.	118.	0.	0.	0.
125	67.	120.	0.	0.	0.
160	68.	121.	0.	0.	0.
200	68.	120.	0.	0.	0.
250	67.	120.	0.	0.	0.
315	68.	118.	0.	0.	0.
400	67.	117.	0.	0.	0.
500	68.	120.	0.	0.	0.
630	68.	121.	0.	0.	0.
800	68.	120.	0.	0.	0.
1000	68.	120.	0.	0.	0.
1250	68.	122.	0.	0.	0.
1600	68.	120.	0.	0.	0.
2000	67.	119.	0.	0.	0.
2500	67.	120.	0.	0.	0.
3150	68.	122.	0.	0.	0.
4000	68.	127.	0.	0.	0.
5000	67.	124.	0.	0.	0.
6300	68.	124.	0.	0.	0.
8000	67.	122.	0.	0.	0.
10000	68.	124.	0.	0.	0.
12500	68.	115.	0.	0.	0.
16000	67.	112.	0.	0.	0.
20000	68.	108.	0.	0.	0.
OCTAVE FREQ					
63	73.	127.	0.	0.	0.
125	72.	125.	0.	0.	0.
250	72.	124.	0.	0.	0.
500	72.	124.	0.	0.	0.
1000	73.	126.	0.	0.	0.
2000	72.	124.	0.	0.	0.
4000	72.	130.	0.	0.	0.
8000	72.	128.	0.	0.	0.
16000	72.	117.	0.	0.	0.

VG=.85 FUEL MODE=WF FUEL=UL
POWER SETTING 70
READING NO. 2153

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	68.	119.	0.	0.	0.
63	68.	116.	0.	0.	0.
80	67.	120.	0.	0.	0.
100	68.	119.	0.	0.	0.
125	68.	118.	0.	0.	0.
160	67.	119.	0.	0.	0.
200	68.	113.	0.	0.	0.
250	68.	111.	0.	0.	0.
315	68.	110.	0.	0.	0.
400	67.	108.	0.	0.	0.
500	67.	110.	0.	0.	0.
630	68.	114.	0.	0.	0.
800	67.	114.	0.	0.	0.
1000	68.	115.	0.	0.	0.
1250	68.	113.	0.	0.	0.
1600	67.	116.	0.	0.	0.
2000	67.	118.	0.	0.	0.
2500	67.	115.	0.	0.	0.
3150	68.	118.	0.	0.	0.
4000	68.	118.	0.	0.	0.
5000	67.	117.	0.	0.	0.
6300	67.	118.	0.	0.	0.
8000	67.	120.	0.	0.	0.
10000	67.	121.	0.	0.	0.
12500	67.	123.	0.	0.	0.
16000	68.	124.	0.	0.	0.
20000	68.	122.	0.	0.	0.
OCTAVE FREQ					
63	72.	123.	0.	0.	0.
125	72.	123.	0.	0.	0.
250	73.	116.	0.	0.	0.
500	72.	116.	0.	0.	0.
1000	72.	119.	0.	0.	0.
2000	72.	121.	0.	0.	0.
4000	72.	122.	0.	0.	0.
8000	72.	125.	0.	0.	0.
16000	72.	128.	0.	0.	0.

VG=.95 FUEL MODE=WF FUEL=UL
POWER SETTING 70
READING NO. 2154

		MICROPHONE POSITION			
1/3 OCT FREQ	1	2	3	4	5
50	68.	123.	0.	0.	0.
63	68.	121.	0.	0.	0.
80	68.	118.	0.	0.	0.
100	68.	119.	0.	0.	0.
125	67.	119.	0.	0.	0.
160	68.	122.	0.	0.	0.
200	68.	121.	0.	0.	0.
250	68.	118.	0.	0.	0.
315	68.	118.	0.	0.	0.
400	67.	117.	0.	0.	0.
500	67.	120.	0.	0.	0.
630	68.	121.	0.	0.	0.
800	68.	119.	0.	0.	0.
1000	67.	120.	0.	0.	0.
1250	68.	122.	0.	0.	0.
1600	67.	120.	0.	0.	0.
2000	67.	120.	0.	0.	0.
2500	67.	120.	0.	0.	0.
3150	67.	122.	0.	0.	0.
4000	68.	127.	0.	0.	0.
5000	67.	125.	0.	0.	0.
6300	67.	125.	0.	0.	0.
8000	67.	122.	0.	0.	0.
10000	68.	123.	0.	0.	0.
12500	67.	116.	0.	0.	0.
16000	68.	113.	0.	0.	0.
20000	67.	108.	0.	0.	0.
OCTAVE FREQ					
63	73.	126.	0.	0.	0.
125	72.	125.	0.	0.	0.
250	73.	124.	0.	0.	0.
500	72.	124.	0.	0.	0.
1000	72.	125.	0.	0.	0.
2000	72.	125.	0.	0.	0.
4000	72.	130.	0.	0.	0.
8000	72.	128.	0.	0.	0.
16000	72.	118.	0.	0.	0.

VG=.70 FUEL MODE=AA FUEL=UL
POWER SETTING 70
READING NO. 2161

1/3 OCT FREQ	MICROPHONE POSITION 1	2	3	4	5
50	69.	119.	0.	0.	0.
63	69.	118.	0.	0.	0.
80	68.	120.	0.	0.	0.
100	68.	120.	0.	0.	0.
125	67.	119.	0.	0.	0.
160	68.	119.	0.	0.	0.
200	68.	113.	0.	0.	0.
250	68.	112.	0.	0.	0.
315	68.	111.	0.	0.	0.
400	67.	108.	0.	0.	0.
500	67.	110.	0.	0.	0.
630	68.	115.	0.	0.	0.
800	68.	114.	0.	0.	0.
1000	68.	115.	0.	0.	0.
1250	67.	114.	0.	0.	0.
1600	67.	116.	0.	0.	0.
2000	67.	118.	0.	0.	0.
2500	67.	115.	0.	0.	0.
3150	68.	118.	0.	0.	0.
4000	68.	118.	0.	0.	0.
5000	67.	118.	0.	0.	0.
6300	67.	119.	0.	0.	0.
8000	67.	121.	0.	0.	0.
10000	67.	121.	0.	0.	0.
12500	67.	123.	0.	0.	0.
16000	68.	125.	0.	0.	0.
20000	68.	123.	0.	0.	0.
OCTAVE FREQ					
63	73.	124.	0.	0.	0.
125	72.	124.	0.	0.	0.
250	73.	117.	0.	0.	0.
500	72.	117.	0.	0.	0.
1000	72.	119.	0.	0.	0.
2000	72.	121.	0.	0.	0.
4000	72.	123.	0.	0.	0.
8000	72.	125.	0.	0.	0.
16000	72.	129.	0.	0.	0.

VG=.95 FUEL MODE=AA FUFL=UL
POWER SETTING 70
READING NO. 2163

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	68.	135.	0.	0.	0.
63	68.	135.	0.	0.	0.
80	68.	132.	0.	0.	0.
100	69.	131.	0.	0.	0.
125	68.	133.	0.	0.	0.
160	68.	132.	0.	0.	0.
200	67.	130.	0.	0.	0.
250	67.	129.	0.	0.	0.
315	68.	128.	0.	0.	0.
400	68.	127.	0.	0.	0.
500	67.	129.	0.	0.	0.
630	68.	130.	0.	0.	0.
800	68.	129.	0.	0.	0.
1000	68.	129.	0.	0.	0.
1250	68.	132.	0.	0.	0.
1600	67.	130.	0.	0.	0.
2000	67.	129.	0.	0.	0.
2500	68.	131.	0.	0.	0.
3150	68.	133.	0.	0.	0.
4000	68.	137.	0.	0.	0.
5000	67.	136.	0.	0.	0.
6300	68.	136.	0.	0.	0.
8000	67.	132.	0.	0.	0.
10000	68.	133.	0.	0.	0.
12500	68.	126.	0.	0.	0.
16000	67.	123.	0.	0.	0.
20000	68.	119.	0.	0.	0.
OCTAVE FREQ					
63	73.	139.	0.	0.	0.
125	73.	137.	0.	0.	0.
250	72.	134.	0.	0.	0.
500	72.	134.	0.	0.	0.
1000	73.	135.	0.	0.	0.
2000	72.	135.	0.	0.	0.
4000	72.	140.	0.	0.	0.
8000	72.	139.	0.	0.	0.
16000	72.	128.	0.	0.	0.

VG=.60 FUEL MODE=AA FUEL=UL
POWER SETTING 70
READING NO. 2164

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	130.	0.	0.	0.
63	67.	127.	0.	0.	0.
80	68.	130.	0.	0.	0.
100	68.	130.	0.	0.	0.
125	67.	129.	0.	0.	0.
160	68.	129.	0.	0.	0.
200	68.	122.	0.	0.	0.
250	68.	122.	0.	0.	0.
315	68.	121.	0.	0.	0.
400	67.	118.	0.	0.	0.
500	67.	120.	0.	0.	0.
630	68.	124.	0.	0.	0.
800	68.	124.	0.	0.	0.
1000	68.	124.	0.	0.	0.
1250	68.	123.	0.	0.	0.
1600	68.	126.	0.	0.	0.
2000	67.	128.	0.	0.	0.
2500	67.	126.	0.	0.	0.
3150	67.	129.	0.	0.	0.
4000	68.	128.	0.	0.	0.
5000	68.	128.	0.	0.	0.
6300	68.	129.	0.	0.	0.
8000	67.	130.	0.	0.	0.
10000	68.	131.	0.	0.	0.
12500	67.	133.	0.	0.	0.
16000	68.	135.	0.	0.	0.
20000	68.	133.	0.	0.	0.
OCTAVE FREQ					
63	73.	134.	0.	0.	0.
125	72.	134.	0.	0.	0.
250	73.	126.	0.	0.	0.
500	72.	126.	0.	0.	0.
1000	73.	128.	0.	0.	0.
2000	72.	132.	0.	0.	0.
4000	72.	133.	0.	0.	0.
8000	72.	135.	0.	0.	0.
16000	72.	139.	0.	0.	0.

VG=.70 FUEL MODE=AA FUEL=UC
POWER SETTING 70
READING NO. 2168

	MICROPHONE POSITION				
1/3 OCT FREQ	1	2	3	4	5
50	69.	116.	0.	0.	0.
63	67.	110.	0.	0.	0.
80	67.	109.	0.	0.	0.
100	68.	108.	0.	0.	0.
125	68.	106.	0.	0.	0.
160	68.	107.	0.	0.	0.
200	68.	107.	0.	0.	0.
250	68.	111.	0.	0.	0.
315	68.	110.	0.	0.	0.
400	67.	108.	0.	0.	0.
500	67.	110.	0.	0.	0.
630	68.	114.	0.	0.	0.
800	68.	115.	0.	0.	0.
1000	67.	113.	0.	0.	0.
1250	68.	112.	0.	0.	0.
1600	67.	113.	0.	0.	0.
2000	67.	117.	0.	0.	0.
2500	67.	115.	0.	0.	0.
3150	67.	117.	0.	0.	0.
4000	68.	118.	0.	0.	0.
5000	67.	117.	0.	0.	0.
6300	67.	119.	0.	0.	0.
8000	67.	121.	0.	0.	0.
10000	67.	122.	0.	0.	0.
12500	68.	124.	0.	0.	0.
16000	68.	125.	0.	0.	0.
20000	68.	123.	0.	0.	0.
OCTAVE FREQ					
63	73.	118.	0.	0.	0.
125	73.	112.	0.	0.	0.
250	73.	114.	0.	0.	0.
500	72.	116.	0.	0.	0.
1000	72.	118.	0.	0.	0.
2000	72.	120.	0.	0.	0.
4000	72.	122.	0.	0.	0.
8000	72.	126.	0.	0.	0.
16000	73.	129.	0.	0.	0.

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